

53
DEPARTMENT OF THE INTERIOR

OFFICE OF THE SECRETARY

THE
YELLOWSTONE
NATIONAL PARK

Season of 1915

GENERAL INFORMATION

The Wonder Spot of America—Its Marvelous Geysers and How to See Them—How a Geyser “Works”—The Gorgeous Grand Canyon of the Yellowstone, brilliant and varied in color beyond description—The Petrified Forests—How to Reach the Park—Hotels and Camps and Cost of Living—Traveling Facilities and Cost—Maps—Regulations Governing Admission of Automobiles

THE Yellowstone is probably the best known of our National Parks. Its geysers are celebrated the world over because, for size, power, and variety of action, as well as number, the region has no competitor. New Zealand, which ranks second, and Iceland, where the word “geyser” originated, possess the only other geyser basins of prominence, but both together do not offer the visitor what he may see in two or three days in Yellowstone. Indeed, the spectacle is one of extraordinary novelty. There are few spots in this world where one is so strongly possessed by emotions of wonder and mystery. The visitor is powerfully impressed by a sense of nearness to nature’s secret laboratories.

The Yellowstone National Park is located in northwestern Wyoming, encroaching slightly upon Montana and Idaho. It is our

largest National Park. The central portion is essentially a broad, elevated, volcanic plateau, between 7,000 and 8,500 feet above sea level, and with an average elevation of about 8,000 feet. Surrounding it on the south, east, north, and northwest are mountain ranges with culminating peaks and ridges rising from 2,000 to 4,000 feet above the general level of the inclosed table-land.

There are three geyser basins, the Norris, the Lower, and the Upper Basins, all lying in the west central part of the park. The geysers exhibit a large variety of character and action. Some, like Old Faithful, spout at accurate intervals, longer or shorter. Others are irregular. Some burst upward with immense power. Others shoot streams at angles or bubble and foam in action. There are many hot springs and caldrons of large size. The regions are grotesquely carved and gorgeously covered by the many colored mineral deposits in the water.

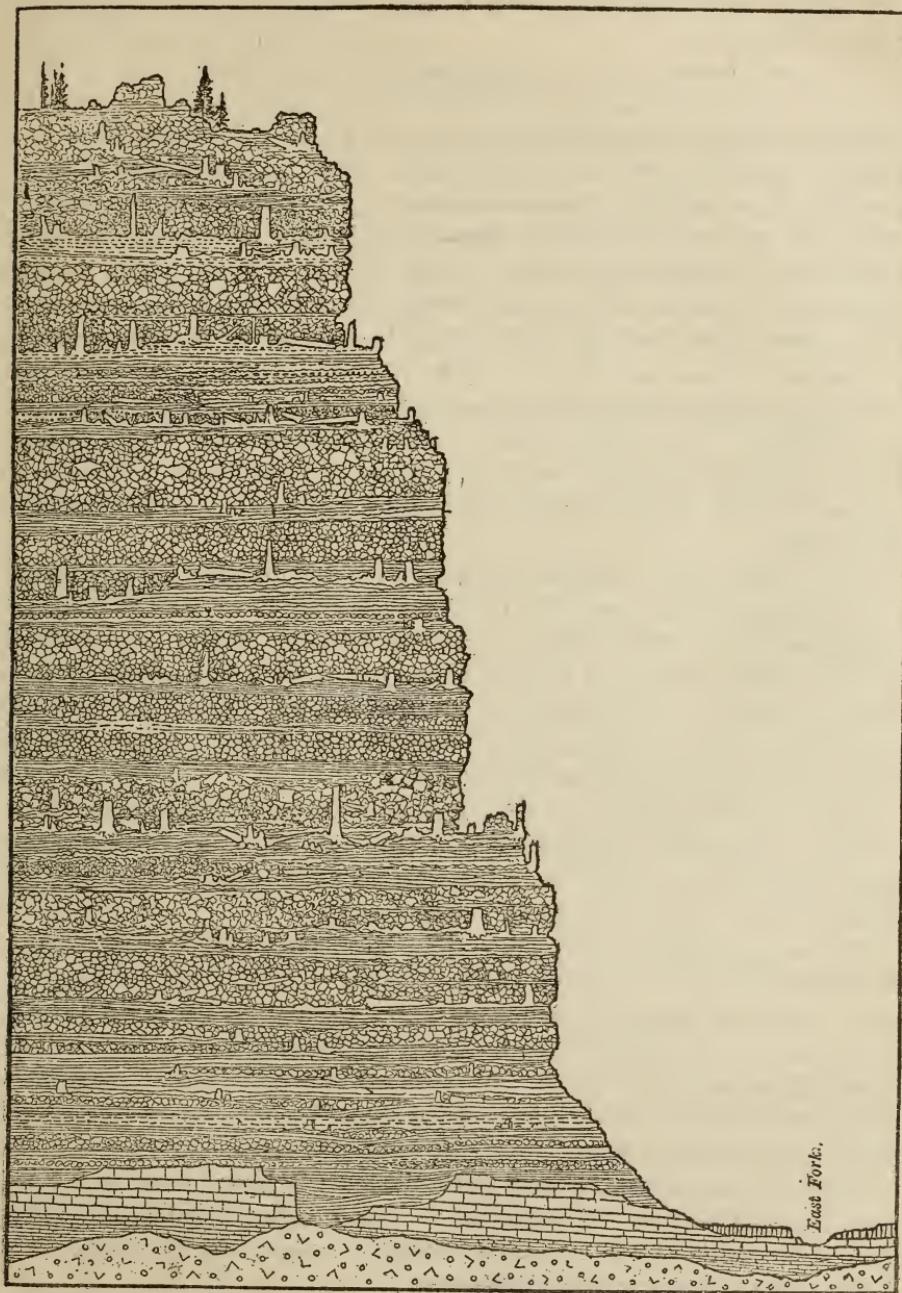
That the geyser waters are surface waters which have percolated through the porous lavas and have been heated by encountering great quantities of steam and gases rising from the hot rocks below there is no reasonable doubt. The proximity of ordinary cold springs and those of boiling hot water lends support to this view.

These hot waters, traversing the rocks in irregular fissures, readily dissolve out the more soluble constituents of the rocks, the amount and the character of the salts present varying somewhat with the nature and amount of gases held in the waters. Chemical analyses of geyser waters from the three regions described show no greater variation than those from different vents in any one of these regions.

That the source of steam is the still hot lavas below, and is in some way connected with volcanic action, is so evident from the facts that no other conclusion is possible. The geyser "works" on the principle of the volcano. When the lowest strata of water becomes heated to a certain point they burst up through the cooler water on top.

But the geysers are not the only wonders of the Yellowstone. Indeed, the entire park is a wonderland. The Grand Canyon of the Yellowstone affords a spectacle worthy of a National Park were there no geysers. For noble ruggedness and particularly for gorgeous coloring it has few equals and only one superior. From the Lower Falls for three miles down the river abrupt walls upon both sides of the canyon, a thousand feet in depth, present a brilliancy and mingling of color beyond the power of description. From the brink of the canyon to the water's edge the walls are sheer bodies of decomposed rhyolite. Varied hues of orange, red, purple, and sulphur-yellow are irregularly blended in one confused mass. There is scarcely a piece of unaltered rock in place. Much of it is changed

into kaolin; but from rhyolite, still easily recognized, occur transition products of every possible kind to good porcelain clay.



IDEAL SECTION THROUGH 2,000 FEET OF BEDS OF SPECIMEN RIDGE, SHOWING SUCCESSION OF BURIED FOREST. AFTER HOLMES.

This is the result of the long-continued action of steam and vapors upon the rhyolite lavas. Through this mass of decomposed rhyolite

the course of ancient steam vents in their upward passage may still be traced, while at the bottom of the canyon hot springs, fumaroles, and steam vents are still more or less active, but probably with diminished power.

The fossil forests of the Yellowstone National Park cover an extensive area in the northern portion of the park, being especially abundant along the west side of Lamar River for about 20 miles above its junction with the Yellowstone. Here the land rises rather abruptly to a height of approximately 2,000 feet above the valley floor. It is known locally as Specimen Ridge, and forms an approach to Amethyst Mountain. There is also a small fossil forest containing a number of standing trunks near Tower Falls, and near the eastern border of the park along Lamar River in the vicinity of Cache, Calfee, and Miller Creeks, there are many more or less isolated trunks and stumps of fossil trees. Just outside the park, in the Gallatin Mountains, between the Gallatin and Yellowstone Rivers, another petrified forest, said to cover more than 35,000 acres and to contain many wonderful upright trunks, has been recently discovered.

The Yellowstone National Park was created by the act of March 1, 1872, and has an area of 2,142,720 acres. It is under the control and supervision of the Secretary of the Interior, but it is patrolled by two special troops of cavalry commanded by a line officer of the Army, assisted by a number of civilian scouts. Road and bridge construction and road sprinkling are under the direction of the Corps of Engineers of the United States Army.

General information may be obtained at the superintendent's office at Fort Yellowstone, Mammoth Hot Springs, Wyo., and complaints regarding service should be addressed to that officer. The tourist season extends from June 15 to September 15.

The transportation companies allow each passenger to take along 25 pounds of hand baggage without extra charge, which is usually quite sufficient unless considerable extra time is to be spent in the park, when arrangements can be made for having trunks forwarded. Arrangements can be made for caring for trunks left at entrance during tour of park, or for rechecking them for passengers who enter at one side of the park and go out by another route.

Heavy, strong clothing and heavy shoes (or light shoes and rubbers) are advisable. A raincoat or other light, serviceable wrap should be taken along. Dusters or heavy coats may be rented for park trips by those desiring them.

The post office in the park is called Yellowstone Park, Wyo., and is located 5 miles from the northern entrance. Those entering from the west should have their mail addressed to Yellowstone, Mont.

Telegrams may be sent from hotels to any part of the world.

General stores are located at Mammoth Hot Springs, Upper Geyser Basin, and outlet of Yellowstone Lake.

A special permit from the Secretary of the Interior is required to take moving pictures in the park.

RAILROADS.

The Northern Pacific Railroad reaches the park on the north at Gardiner, Mont.; the Oregon Short Line Railroad reaches it on the west at Yellowstone, Mont.; and the Chicago, Burlington & Quincy Railroad reaches Cody, Wyo., from which the eastern entrance to the park may be reached by a drive of 63 miles. Descriptive matter and information regarding railroad rates may be obtained from the roads mentioned. Excursion tickets are sold during the park season.

TRANSPORTATION AND ACCOMMODATIONS IN THE PARK.

Automobiles for pleasure purposes only will be allowed in the park after August 1, 1915, under appropriate regulations and after payment of a license fee. Regulations are being prepared; when ready they may be obtained from the superintendent or from the Secretary of the Interior. There are a number of hotels, permanent camps, and transportation lines operated in the park under contract with the Department of the Interior, and movable camps operate under yearly license issued by the department, but every person is at liberty to provide his own means of transportation, subject to the regulations printed on pages 55-60. Five and one-half days is the minimum time in which the tour of the park can be made. Persons starting on the tour of the park by way of the movable camps can not obtain accommodations at the hotels except in cases of sickness or exceptional circumstances. Circulars and information may be obtained from the concessioners whose addresses are given in this circular.

Tourists are advised to arrange in advance for their hotel or camp accommodations.

YELLOWSTONE PARK HOTEL CO.

The Yellowstone Park Hotel Co. maintains five hotels and two lunch stations in the park. The hotels are located at Mammoth Hot Springs, the Lower Geyser Basin, the Upper Geyser Basin, the outlet of Yellowstone Lake, and the Grand Canyon of the Yellowstone; the lunch stations are located at Norris Geyser Basin and the Thumb of the Lake. These hotels are operated in connection with the Yellowstone Park Transportation Co., whose coaches start from the northern entrance at Gardiner; the Yellowstone-Western Stage Co., whose coaches start from the western entrance at Yellowstone; and the Holm Transportation Co., whose coaches start from Cody, Wyo.

The address of the hotel company is Yellowstone Park, Wyo., from June 15 to September 15, and Helena, Mont., thereafter. The authorized rates at the hotels are as follows:

Rates of the Yellowstone Park Hotel Co.

HOTEL CHARGES.

Board and lodging, regular accommodations, not exceeding, per day-----	\$5.00	Wet shampoo, ladies-----	\$1.25
Board and lodging, extra accommodations not covered by the regular rate, such sum in excess of \$5 per day as may be agreed upon between the guests and the company.		Scalp treatment-----	1.00
Extra for room with bath, each person, per day-----	1.00	Face massage:	
Meals or lodgings, part of a day, each-----	1.25	Men -----	.50
Meals served in rooms, extra, each-----	.50	Women -----	1.00
Shaving-----	.25	Almond or clay pack-----	1.50
Hair cutting-----	.50	Ladies' plain hair dressing-----	.50
Shampooing, men-----	.50	Ladies' fancy hairdressing-----	1.00 to 2.00
Dry shampoo, ladies-----	1.00	Singeing-----	.50
		Manicuring-----	.75 to 1.00
		Chiropody:	
		In shop -----	1.50
		In private rooms, in hotel, extra-----	.50
		Bath-----	.50
		Boot blacking-----	.10
		Billiards:	
		Per game -----	.25
		Per hour-----	.60

NEWS STANDS.

Guide books, periodicals, magazines, etc., at customary rates.

TELEGRAMS.

From all points in the United States (except Helena, Mont.) to Helena, Mont., at Western Union rates; Helena to Mammoth Hot Springs, Yellowstone Park Hotel Co., charge of 25 cents for first 10 words and 2 cents for each additional word; Helena to other points in Yellowstone National Park, charge of 50 cents for first 10 words and 3 cents for each additional word.

Messages exchanged between offices in the park at the rate of 25 cents for 10 words and 2 cents for each additional word.

TELEPHONE MESSAGES.

Use of telephone from or to any point in the park, not to exceed 1 minute, 25 cents. Each additional minute, 15 cents.

YELLOWSTONE PARK TRANSPORTATION CO.

The Yellowstone Park Transportation Co. operates a transportation line from Gardiner, Mont., the northern entrance, in connection with the hotels. The stages run daily during the season. The address of this company is Yellowstone Park, Wyo., between June 15

and September 16; thereafter, Helena, Mont. The authorized rates are as follows:

Transportation rates of the Yellowstone Park Transportation Co.

ROUND TRIPS.

Mammoth Hot Springs to—

Norris, Fountain, Upper Basin, and return, with stop-over privileges—	\$18.00
Norris, Fountain, Upper Basin, and Grand Canyon, and return, with stop-over privileges—	25.00
Round trip of park, via Norris, Fountain, Upper Basin, Thumb of Lake, Lake, Grand Canyon, and Norris, with stop-over privileges—	25.00

SINGLE TRIPS.¹

Mammoth Hot Springs to—

Gardiner	\$1.50
Norris	4.00
Fountain	7.50
Upper basin	9.00
Grand Canyon	7.50
Lake	12.50
Thumb	15.50

Norris to—

Upper Basin	5.00
Fountain	3.50
Grand Canyon	3.50
Lake	8.50

Fountain to—

Upper Basin	1.50
Norris	3.50
Grand Canyon	7.00
Mammoth Hot Springs	7.50

Upper Basin to—

Fountain	\$1.50
Norris	5.00
Grand Canyon	8.50
Mammoth Hot Springs	9.00

Lake to—

Grand Canyon	5.00
Norris	8.50
Mammoth Hot Springs	12.50
Upper Basin	13.50

Grand Canyon to—

Norris	3.50
Fountain	7.00
Upper Basin	8.50
Mammoth Hot Springs	7.50
Lake	5.00

CARRIAGES, SADDLE HORSES, GUIDES, ETC.

Saddle horse:

Per day	\$3.50
First hour	1.00

Each subsequent hour	.50
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Carriages or surrey, capacity of 3 seats, at Mammoth, Canyon, Fountain and Upper Basin:

Per day	10.00
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First hour	4.00
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Each subsequent hour	2.00
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Seats in conveyance for drive:

Over formation at Fountain, each	.50
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Over formation at Upper Geyser Basin	.50
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To Inspiration Point at Canyon	\$1.00
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Seats in conveyance for drive—

Continued.

To Artists Point at Canyon	1.00
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Over formation at Mammoth Hot Springs	1.00
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Guide, with saddle horse, per day	5.00
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Packer, with saddle horse, per day	5.00
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Cook, with saddle horse, per day	5.00
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Pack horses, each, per day	1.50
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Mount Washburn, round trip, from Grand Canyon	5.00
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¹ Trip in reverse direction not made for less than 3 fares.

YELLOWSTONE NATIONAL PARK.

PARK TRIPS.

1 vehicle, seat 3, 2 horses and driver, per day-----	\$15.00	For each additional passenger carried, regular fare charged.
1 vehicle, seat 5, 4 horses and driver, per day-----	25.00	Vehicle per diem rates one-half of above for all time over five days.
1 vehicle, seat 7, 4 horses and driver, per day-----	30.00	Driver boarded and horses stabled and fed by and at expense of transportation company.

YELLOWSTONE-WESTERN STAGE CO.

The Yellowstone-Western Stage Co. operates a transportation line from Yellowstone, Mont., the western entrance, in connection with the hotels. The stages run daily during the season. The address of this company is Yellowstone, Mont., between June 15 and September 15; thereafter St. Paul, Minn. The authorized rates are as follows:

Transportation rates of the Yellowstone-Western Stage Co.

TOUR TRIPS.

Yellowstone (western entrance) to—

Fountain, Upper Geyser Basin, and return (Tour No. 1)-----	\$8.00
Fountain, Upper Geyser Basin, Lake, Canyon, Norris, and return (Tour No. 2)-----	16.00
Fountain, Upper Geyser Basin, Lake, Canyon, Norris, Mammoth Hot Springs, and return (Tour No. 3)-----	20.00
Fountain, Upper Geyser Basin, Lake, Canyon, Norris, Mammoth Hot Springs, and Gardiner (Tour No. 4)-----	20.00

STOP-OVER PRIVILEGES.

All passengers, except those having arranged for special conveyance, are granted stop-over privileges at any of the regular stopping places in the park without extra charge for transportation. Parties can retain their surrey or coach for their use on lay-over days at the following rates:

Five-passenger, two-horse surrey and driver, per day-----	\$8.00
Eight-passenger, four-horse coach and driver, per day-----	10.00
Eleven-passenger, four-horse coach and driver, per day-----	12.00

Any of the above vehicles can be secured for private parties by paying for the vacant space at authorized rates for tour trips.

PRIVATE PARTY—SPECIAL CONVEYANCE.

Three-passenger, two-horse surrey and driver, per day-----	\$12.00
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Parties holding railroad coupons for park tours will receive credit for same at their full value.

LOCAL TRIPS.

Yellowstone to Fountain Hotel, Lower Geyser Basin-----	\$4.00
Fountain to Old Faithful Inn, Upper Geyser Basin-----	1.25
Upper Basin to Thumb Lunch Station, Yellowstone Lake-----	3.25
Thumb to Colonial Hotel-----	2.50

Lake to Canyon Hotel, Grand Canyon-----	\$4.00
Canyon to Norris Lunch Station, Norris Geyser Basin-----	3.00
Norris to Yellowstone, western entrance-----	5.00
Norris to Mammoth Hotel, Mammoth Hot Springs-----	3.25
Mammoth to Gardiner, northern entrance-----	1.25

Parties requesting local trips in opposite direction from the regular stage route will consist of sufficient number to fill a minimum conveyance (three passengers) or pay for vacant space at above rates.

MOUNT WASHBURN, DUNRAVEN PASS, TOWER FALLS, AND MAMMOTH TRIPS.

These tours, on account of snow, are not available until early in July.	
From Grand Canyon to summit Mount Washburn and return-----	\$4.00
Only special equipment for this trip allowed.	
From Grand Canyon via Dunraven Pass and Tower Falls to Mammoth-----	7.50
To passengers holding Yellowstone-Western stage transportation reading via Norris to Mammoth extra charge for trips from Canyon via Dunraven Pass, Tower Falls to Mammoth-----	3.50
To passengers holding Yellowstone-Western stage transportation for tour No. 2, not including side trip to Mammoth, extra charge for trips from Canyon via Dunraven, Towel Falls, and Mammoth to Norris-----	7.50
Minimum on above trips, three passengers.	

CARRIAGES, SADDLE HORSES, GUIDES, ETC.

Carriage or surrey, three seats, for use in vicinity of western entrance, Fountain, Upper Basin, Lake, Canyon, Norris, or Mammoth:	
Per day-----	\$8.00
First hour-----	3.00
Each subsequent hour-----	1.50
Seats in conveyance for drive:	
Over formation at Fountain, each-----	.50
Over formation at Upper Basin, each-----	.50
To Inspiration Point at Canyon, each-----	1.00
To Artists Point at Canyon, each-----	1.00
Saddle horse:	
Per day-----	3.00
First hour-----	1.00
Each subsequent hour-----	.50
Guide, with saddle horse, per day-----	4.00
Packer, with saddle horse, per day-----	4.00
Cook, with saddle horse, per day-----	4.00
Pack horse, each, per day-----	1.50

HOLM TRANSPORTATION CO.

The Holm Transportation Co. operates a transportation line from Cody, Wyo., through the eastern entrance in connection with the hotels and the Wylie permanent camps. Stages run daily during the season. The address of this company is Cody, Wyo. The automobiles of the Holm Transportation Co. leave Cody each day during the season, transporting passengers to Holm Lodge. The authorized rates are as follows:

Transportation rates of the Holm Transportation Co.

STAGE ROUTE FARES.

Eastern entrance, Sylvan Pass, Lake, Upper Geyser Basin, Norris, Canyon, Lake Hotel, Sylvan Pass, eastern entrance (5 days)-----	\$25.00
Eastern entrance, Lake, Upper Geyser Basin, Norris, Canyon, Norris, Mammoth Hot Springs, and northern entrance (5 days)-----	25.00
Eastern entrance, Lake, Upper Geyser Basin, Norris, Canyon, Norris, Yellowstone (5 days)-----	25.00
Canyon to eastern entrance (1 day)-----	5.00
Eastern entrance to Canyon (1 day)-----	5.00
Ten-day horseback tour (stopping at park hotels, making tour by easy rides; will not make trip for less than 2 persons), \$5 per day, which includes guide. Eastern entrance, Sylvan Pass, Lake, Thumb, Upper Geyser Basin, Fountain, Gibbon, Norris, Canyon, Lake, Sylvan Pass, eastern entrance (10 days)-----	50.00

An additional charge is made for transportation between Cody and the eastern entrance. As this trip is outside the park, the department has no control over the rates.

STOP-OVER PRIVILEGES.

All passengers are granted stop-over privileges at any of the regular stopping places in the park without extra charge for transportation. Parties can retain surrey for their use on lay-over days at the following rates:

Three-passenger 2-horse surrey, and driver, per day-----	\$7.50
Five-passenger 2-horse surrey, and driver, per day-----	10.00

CARRIAGES, GUIDES, SADDLE HORSES, ETC.

Saddle horse, per day-----	\$3.50
Guide, with saddle horse, per day-----	5.00
Seats in conveyances from Lake Hotel to eastern entrance-----	5.00
Mount Washburn, round trip, from Grand Canyon-----	5.00

PARK TRIPS.

One vehicle, seat 3, 2 horses and driver, per day-----	\$15.00
One vehicle, seat 5, 2 horses and driver, per day-----	25.00

For each additional passenger carried, regular fare charged.

Vehicle per diem rates one-half of above for all time over 5 days. Driver boarded and horses stabled and fed by and at expense of transportation company.

WYLIE PERMANENT CAMPING CO.

The Wylie Permanent Camping Co. maintains permanent camps in the park and operates a transportation line from Gardiner (northern entrance), Yellowstone (western entrance), and Camp Cody (eastern entrance). The camps are located at Swan Lake Basin, Riverside (western entrance), Upper Geyser Basin, outlet of Yellowstone Lake, Grand Canyon of the Yellowstone, Camp Cody (eastern

entrance), and Tower Falls. In addition, lunch stations are maintained at the Gibbon Geyser Basin and at Thumb of Yellowstone Lake. Stages run daily during the season. The address of this company is Livingston, Mont. The authorized rates are as follows:

Rates for services rendered and accommodations furnished by the Wylie Permanent Camping Co.

TOURS AND TRIPS.

Each of the following trips and tours includes stage transportation, board, and lodging for each person:

From Gardiner, Mont. (north entrance) :

(1)	Six days (entrance, Gardiner; exit, Gardiner), via Mammoth Hot Springs, Swan Lake Camp, Norris Geyser Basin, Gibbon Lunch Station, Upper Geyser Basin, Thumb Lunch Station, Yellowstone Lake, Grand Canyon, Swan Lake Camp, Mammoth Hot Springs, and Gardiner-----	\$40.00
(1-A)	Five days (entrance, Gardiner; exit, Gardiner), same as No. 1, omitting the day at the Upper Geyser Basin-----	37.00
(2)	Six days (entrance, Gardiner; exit, Yellowstone), via Mammoth Hot Springs, Swan Lake Camp, Norris Geyser Basin, Gibbon Lunch Station, Upper Geyser Basin, Thumb Lunch Station, Yellowstone Lake, Grand Canyon, Norris Geyser Basin, Gibbon Lunch Station, and Yellowstone-----	40.00
(3)	Six days (entrance, Gardiner; exit, Cody), via Mammoth Hot Springs, Swan Lake Camp, Norris Geyser Basin, Gibbon Lunch Station, Upper Geyser Basin, Thumb Lunch Station, Yellowstone Lake, Grand Canyon, Yellowstone Lake to east boundary -----	49.00
(20)	Four days (entrance, Gardiner; exit, Gardiner), via Mammoth Hot Springs, Swan Lake Camp, Norris Geyser Basin, Gibbon Lunch Station, Upper Geyser Basin, Gibbon Lunch Station, Norris Geyser Basin, Swan Lake Camp, Mammoth Hot Springs, and Gardiner-----	30.00
(21)	Four days (entrance, Gardiner; exit, Cody), via Mammoth Hot Springs, Swan Lake Camp, Norris Geyser Basin, Grand Canyon, Lake Camp to east boundary-----	¹ 30.00
(22)	Three days (entrance, Gardiner; exit, Gardiner), via Mammoth Hot Springs, Swan Lake Camp, Norris Geyser Basin, Grand Canyon, Norris Geyser Basin, Swan Lake Camp, Mammoth Hot Springs, and Gardiner-----	22.00
(23)	Two days (entrance, Gardiner; exit, Yellowstone), via Mammoth Hot Springs, Swan Lake Camp, Norris Geyser Basin, Gibbon Lunch Station, and Yellowstone-----	14.50
(24)	Two days (entrance, Gardiner; exit, Gardiner), via Mammoth Hot Springs, Swan Lake Camp, Norris Geyser Basin, Swan Lake Camp, Mammoth Hot Springs, and Gardiner-----	14.00
(25)	One-half day (entrance, Gardiner; exit, Gardiner), via Mammoth Hot Springs, Swan Lake Camp, Mammoth Hot Springs, and Gardiner-----	6.00

¹ Transportation between Cody and Camp Cody \$3 additional one way and \$3.75 additional for the round trip. These rates cover service outside the park and are not subject to regulation by the department. They are given simply as a matter of general information.

From Yellowstone, Mont. (west entrance) :

(4)	Six days (entrance, Yellowstone; exit, Yellowstone), via Yellowstone Camp, Gibbon Lunch Station, Upper Geyser Basin, Thumb Lunch Station, Yellowstone Lake, Grand Canyon, Swan Lake Camp, Mammoth Hot Springs, Swan Lake Camp, Norris, Gibbon Lunch Station, and Yellowstone-----	\$40.00
(4-A)	Five days (entrance, Yellowstone; exit, Yellowstone), same as No. 4, omitting the day at Upper Geyser Basin-----	37.00
(5)	Five days (entrance, Yellowstone; exit, Yellowstone), via Yellowstone Camp, Gibbon Lunch Station, Upper Geyser Basin, Thumb Lunch Station, Yellowstone Lake, Grand Canyon, Norris, Gibbon Lunch Station, and Yellowstone-----	35.00
(5-A)	Four days (entrance, Yellowstone; exit, Yellowstone), same as No. 5, omitting the day at Upper Geyser Basin-----	32.00
(6)	Six days (entrance, Yellowstone; exit, Gardiner), via Yellowstone Camp, Gibbon Lunch Station, Upper Geyser Basin, Thumb Lunch Station, Yellowstone Lake, Grand Canyon, Norris Geyser Basin, Swan Lake Camp, Mammoth Hot Springs, and Gardiner-----	40.00
(7)	Four days (entrance, Yellowstone; exit, Cody), via Yellowstone Camp, Gibbon Lunch Station, Upper Geyser Basin, Thumb Lunch Station, Yellowstone Lake, Grand Canyon, Yellowstone Lake, to east boundary-----	¹ 38.75
(26)	Three days (entrance, Yellowstone; exit, Yellowstone), via Gibbon Lunch Station, Norris Geyser Basin, Grand Canyon, Norris, Gibbon Lunch Station, and Yellowstone-----	22.00
(27)	Three days (entrance, Yellowstone; exit, Cody), via Gibbon Lunch Station, Norris Geyser Basin, Grand Canyon, Yellowstone Lake, to east boundary-----	¹ 27.00
(28)	Two days (entrance, Yellowstone; exit, Yellowstone), via Gibbon Lunch Station, Upper Geyser Basin, Gibbon Lunch Station, and Yellowstone-----	14.00
(29)	Two days (entrance, Yellowstone; exit, Gardiner), via Gibbon Lunch Station, Norris Geyser Basin, Swan Lake Camp, Mammoth Hot Springs, and Gardiner-----	14.50

From Cody, Wyo. (east entrance) :

(8)	Six days (entrance, Cody; exit, Cody), from east boundary, via Yellowstone Lake, Grand Canyon, Swan Lake Camp, Mammoth Hot Springs, Swan Lake Camp, Norris Geyser Basin, Gibbon Lunch Station, Upper Geyser Basin, Thumb Lunch Station, Yellowstone Lake, to east boundary-----	¹ 47.00
(9)	Five days (entrance, Cody; exit, Cody), from east boundary, via Yellowstone Lake, Grand Canyon, Norris Geyser Basin, Gibbon Lunch Station, Upper Geyser Basin, Thumb Lunch Station, Yellowstone Lake, to east boundary-----	¹ 38.75
(10)	Five-day park tour, from Cody Camp (Gardiner exit) via Yellowstone Lake, Thumb Lunch Station, Upper Geyser Basin, Gibbon, Canyon, Norris, and Mammoth Hot Springs, to Gardiner, Mont-----	14.50

¹ Transportation between Cody and Camp Cody \$3 additional one way and \$3.75 additional for the round trip. These rates cover service outside the park and are not subject to regulation by the department. They are given simply as a matter of general information.

From Cody, Wyo. (east entrance)—Continued.

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|---|---------|
| (11) Five days (entrance, Cody; exit, Yellowstone), from east boundary, via Yellowstone Lake, Grand Canyon, Swan Lake Camp, Mammoth Hot Springs, Swan Lake Camp, Norris Geyser Basin, Gibbon Lunch Station, Upper Geyser Basin, Gibbon Lunch Station, and Yellowstone----- ¹ | \$43.00 |
| (30) Four days (entrance, Cody; exit, Yellowstone), from east boundary, via Yellowstone Lake, Grand Canyon, Norris Geyser Basin, Gibbon Lunch Station, Upper Geyser Basin, Gibbon Lunch Station, and Yellowstone----- ¹ | 33.75 |
| (31) Three days (entrance, Cody; exit, Yellowstone), from east boundary, via Yellowstone Lake, Grand Canyon, Norris Geyser Basin, Gibbon Lunch Station, and Yellowstone----- ¹ | 27.00 |
| (32) Three days (entrance, Cody; exit, Gardiner), from east boundary, via Yellowstone Lake, Grand Canyon, Norris, Swan Lake Camp, Mammoth Hot Springs, and Gardiner----- ¹ | 27.00 |

Diverse route, Canyon to Mammoth, via Roosevelt Camp and Tower Falls:

Four dollars extra for transportation and \$3 extra for the necessary one-day board and lodging at Roosevelt Camp.

This diverse route is available only when Roosevelt Camp is open; the trip will not be made with less than two persons.

Children's rates:

Children under 10 years of age, half rates.

MISCELLANEOUS CHARGES.

Camp charges:

Additional time for holders of tickets or transients, per day, board and lodging, each person-----	\$3.00
Single meals, each person-----	.75
Lodging, each person-----	1.00
Sulphur baths at Camp Roosevelt and Upper Geyser Basin, and baths elsewhere, each person-----	.50
Feeding horses, oats or hay, each feed, each horse-----	.50

Miscellaneous transportation rates:

Wagon (three seats), two horses and driver, when retained during overtime (additional to \$3 for board and lodging), each day-----	5.00
Concord coach (four seats), four horses and driver, when retained during overtime (additional to \$3 for board and lodging), each day-----	8.00
Saddle horses, each horse, each day-----	3.00
Trunks, cartage between Yellowstone Station and Yellowstone and between Gardiner Station and Wylie Hotel, each trunk, round trip-----	.50
Bicycles carried between stations, each bicycle-----	.50

Local transportation rates:

Gardiner to Swan Lake-----	3.00
Swan Lake to Upper Geyser Basin-----	5.00
Upper Geyser Basin to Thumb of Lake-----	4.00
Thumb to Lake Outlet (Lake Camp)-----	3.00
Lake Camp to Canyon-----	3.00
Canyon to Swan Lake-----	4.00
Canyon to Norris-----	2.00

¹ Transportation between Cody and Camp Cody \$3 additional one way and \$3.75 additional for the round trip. These rates cover service outside the park and are not subject to regulation by the department. They are given simply as a matter of general information.

Local transportation rates—Continued.

Norris to Swan Lake-----	\$2.00
Norris to Mammoth Hot Springs-----	3.50
Gardiner to Mammoth Hot Springs-----	1.00
Yellowstone Camp to Gibbon Camp-----	3.00
Gibbon Camp to Norris-----	2.00
Gibbon Camp to Upper Geyser Basin-----	3.00
Yellowstone Camp to Upper Geyser Basin-----	5.00
Gardiner to Camp Roosevelt-----	4.00
Canyon to Camp Roosevelt via Dunraven Pass-----	4.00
Lake to Cody Camp (eastern entrance)-----	5.00
Canyon to Mount Washburn and return-----	4.00

SHAW & POWELL CAMPING CO.

The Shaw & Powell Camping Co. maintains permanent camps and operates a transportation line from Gardiner (northern entrance) and Yellowstone (western entrance). The camps are located at the following points: Near Obsidian Bridge, near Gibbon Falls, near Fountain Soldier Station, near Old Faithful Geyser, at the west Thumb of the Lake, near outlet of Yellowstone Lake, at Grand Canyon, and near Tower Falls. A lunch station is maintained on Madison River. Stages run daily through the season. The address of this company is Livingston, Mont.

Schedule of rates for services rendered and accommodations furnished by Shaw & Powell Camping Co.

TOURS AND TRIPS.

Each of the following trips and tours includes stage transportation, board, and lodging for each person:

From Gardiner (northern entrance):

1. Five and one-half day trip-----	\$35.00
2. To Willow Park Camp (overnight) and return-----	8.50
3. To Norris Geyser Basin and return-----	15.00
4. To Canyon Camp and return-----	20.00
5. To Yellowstone direct-----	15.00

From Yellowstone (western entrance):

1. Five-day trip via Lower and Upper Geyser Basins, Lake, Canyon, Norris, Mammoth Hot Springs, Willow Park, and return-----	35.00
2. Four-day trip via Lower and Upper Geyser Basins, Lake, Canyon, Norris, Gibbon, and return-----	30.00
3. To Old Faithful Camp and return-----	15.00

Parties may enter at one entrance and leave at the other without extra charge.

Children under 10 years, one-half rate.

Trunks of tourists, station to hotel and return, free.

From Grand Canyon to Mount Washburn and return-----	\$5.00
From Grand Canyon via Tower Falls and out at Gardiner, staying one night at Tower Falls-----	7.00
From Grand Canyon via Tower Falls and out at Yellowstone, with one night at Tower Falls for those holding five-day tickets, and making one day additional, extra charge-----	7.00

For tourists holding but a four-day ticket, this trip via Tower Falls and out at Yellowstone, making two days additional, extra charge---- \$12.00

LOCAL TRANSPORTATION RATES.

(a) Gardiner to Willow Park Camp-----	\$2.75
(b) Willow Park Camp to Gibbon Lunch Station-----	3.50
(c) Gibbon Lunch Station to Nez Perce Camp-----	1.50
(d) Nez Perce Camp to Old Faithful Camp-----	1.75
(e) Old Faithful Camp to Thumb Lunch Station-----	3.00
(f) Thumb Lunch Station to Lake Camp-----	2.50
(g) Lake Camp to Canyon Camp-----	2.50
(h) Canyon Camp to Norris Geyser Basin-----	1.75
(i) Norris Geyser Basin to Willow Park Camp-----	2.00
(j) Willow Park Camp to Gardiner-----	2.75
(k) Yellowstone to Nez Perce Camp-----	3.00
(l) Gibbon Lunch Station to Yellowstone-----	3.00

MISCELLANEOUS.

Saddle horses, per day, each-----	\$3.00
Board and lodging for detached persons, per day, each-----	3.00
Lodging, per person-----	1.00
Single meal-----	.75
Feeding horses oats, per feed-----	.50
Feeding horses hay, per feed-----	.50
Extra stay at camps, per day-----	3.00
Extra stay at camps, per day, with team-----	5.00

BATHHOUSE.

Henry J. Brothers, of Salt Lake City, Utah, under contract with the department operates a pool bathhouse at Upper Geyser Basin. Rates, 50 cents in large pool, \$1 in private pool.

PERSONALLY CONDUCTED CAMPING PARTIES.

The persons named below are licensed to conduct camping parties through the park. They do not furnish daily service, but make trips on certain dates or special trips as arranged. Additional information may be obtained by addressing the licensees.

Authorized rates of E. C. Brown and Simon Snyder.

[Address, Valley, Wyo.]

Regular 10 to 45 day trips, price for each member of party, including transportation, saddle horse, and board and lodging in camp, per day per person-----	\$8.00
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Authorized rates of Joe Clause.

[Address, Yellowstone, Wyo.]

Regular 5-day trip, price for each member of party, including transportation and board and lodging in camp-----	\$25.00
Additional per day for stop-overs at points of interest, for each member of party-----	2.50

Extra charge for saddle horses, per day-----	\$1.00
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Authorized rates of Howard Eaton.

[Address, Wolf, Wyo.]

Regular 20-day trip, price for each member of party, including transportation and board and lodging in camp, total for trip-----	\$150.00
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Authorized rates of W. N. and O. M. Hefferlin.

[Address, Livingston, Mont.]

From Gardiner (northern entrance) :

5½-day trip via Norris, lower and upper geyser basin, Lake, Canyon, Norris, and return-----	\$30.00
Exit via Yellowstone, additional-----	2.50
4-day trip to Old Faithful Camp and return-----	25.00
Exit via Yellowstone, additional-----	2.50
3-day trip to Grand Canyon via Norris and return-----	20.00
To Norris and return-----	14.00
To Mammoth Hot Springs and vicinity and return-----	5.00

From Yellowstone (western entrance) :

4-day trip via lower and upper geyser basin, Lake, Canyon, Norris, and return-----	26.50
Exit via Gardiner, additional-----	2.50
5-day trip, same as above, including Mammoth Hot Springs-----	33.00
To Grand Canyon via Norris and return (limited to 4 or more people) -----	21.00
To Old Faithful Camp and return (limited to 4 or more)-----	14.00

Miscellaneous :

From Gardiner to Yellowstone via Norris-----	14.00
From Yellowstone to Gardiner via Norris (limited to 4 people)-----	14.00
Extra stay at camps, per day-----	3.00
Extra stay at camps with team per day (limited to 4 people from Yellowstone) -----	5.00
Lodging, per person-----	1.00
Meals, per person per meal-----	.75
Children under 10, half fare on all trips.	
Feeding horses, oats, per feed-----	.50
Saddle horses (each) per day-----	3.00

Authorized rates of W. H. Jordan.

[Address, Cody, Wyo.]

Regular 14-day trip, price for each member of party, including transportation and board and lodging in camp, per day-----	\$5.00
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Additional per day for stop-overs at points of interest, for each member of party-----	5.00
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Extra charge for saddle horses, per day-----	1.50
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Authorized rates of S. E. and E. J. Larson.

[Address, Gardiner, Mont.]

Regular 6-day trip, price for each member of party, including transportation and board and lodging in camp-----	\$30.00
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Additional per day for stop-overs at points of interest, for each member of party -----	\$5.00
Extra charge for saddle horses, per day-----	2.00
1-day trip to Mammoth Hot Spring and Golden Gate and vicinity, per person per day-----	5.00

Authorized rates of H. Mullendore.

[Address, Cody, Wyo.]

Regular 14-day trip, price for each member of party, including transportation and board and lodging in camp, per day-----	\$5.00
Additional per day for stop-overs at points of interest, for each member of party-----	5.00
Extra charge for saddle horses, per day-----	2.00

Authorized rates of Oscar O. Roseborough and H. P. Grant.

[Address, Gardiner, Mont.]

Regular 6-day trips, price for each member of party, including transportation and board and lodging in camp-----	\$30.00
Additional per day for stop-overs at points of interest, for each member of party-----	3.00
7-day trip, via Tower Falls from Canyon, each member-----	35.00
3-day trip to Grand Canyon and return, from Gardiner-----	20.00

Authorized rates of B. D. Sheffield.

[Address, Moran, Wyo.]

Does not camp inside of the park, but takes tourists to hotels while en route to hunting lodge at Moran, Wyo., by special arrangement, paying usual hotel rates for them.

Regular trips, price for each member of party, including transportation and board and lodging at hotels (ordinary accommodations), one in party, per day-----	\$15.00
For each member of party, if two in party, per day-----	12.50
Same, with three or more in party, per day-----	10.00
Extra charge for saddle horses, per day-----	5.00

Authorized rates of Will B. Shore and George T. Hopkins.

[Address, Cody, Wyo.]

Regular 16-day trip, price for each member of party, including transportation and board and lodging in camp-----	\$80.00
Extra charge for saddle horses, per day-----	1.00

Authorized rates of Bert Stewart and John McPherson.

[Address, Gardiner, Mont.]

Regular 6-day trips, price for each member of party, including transportation and board and lodging in camp-----	\$30.00
Additional, per day, for stop-overs at points of interest, for each member of party-----	5.00

To Cook City via Tower Falls Station and Soda Butte:

Rates for team and driver to Cook City, per day-----	\$7.50
Rates for team and driver to Yellowstone, per day-----	7.50
Short one-day trips from Gardiner to Mammoth Hot Springs, Golden Gate, and vicinity:	
Regular trips, one day, price for transportation, rig carrying two or three people-----	8.00
For same trip, larger rig, for each passenger-----	2.00

BOAT SERVICE ON YELLOWSTONE LAKE.

The Yellowstone Park Boat Co., under contract with the department, maintains and operates power boats and rowboats on Yellowstone Lake. The service on this lake is not a part of the regular transportation of the park and an extra charge is made, as shown in the schedule below. Under the regulations of the department no power boats are permitted to be operated on this lake except those that have passed the inspection of the United States Steamboat-Inspection Service of the Department of Commerce.

Rates of the Yellowstone Park Boat Co.

POWER BOATS.

Lake Hotel to West Arm (Thumb) of Yellowstone Lake, or reverse-----	\$2.50
Excursions to Southeast Arm of lake, per individual (this trip not made for less than \$20)-----	2.00
33-foot cabin cruiser, with crew, per day-----	35.00
For two or more days, per day-----	25.00
16-foot and 18-foot launches:	
Per day-----	15.00
For first hour-----	3.00
For each additional hour-----	2.00
Over six hours, day rates charged.	

ROWBOATS.

Per day-----	2.00
For first hour-----	.50
For each additional hour-----	.25
Over six hours, day rates charged.	

Oarsmen:

Per hour-----	.50
Per day-----	4.00

Boat rental and services of oarsmen and motor boat and attendants' time commences from the moment of leaving the dock until return.

FISHING TACKLE.

Outfit, consisting of rod, reel, line, and landing net, per day-----	\$0.50
Same free to each individual hiring launches. Charges may be made for broken rods or lost outfit at regular price.	
Flies sold from 5 to 25 cents, according to quality.	
Fishing accessories sold at regular prices, according to quality.	

PRINCIPAL POINTS OF INTEREST.

GARDINER (NORTHERN ENTRANCE) TO MAMMOTH HOT SPRINGS.¹

Gardiner (altitude 5,300 feet) is the terminus of the branch line of the Northern Pacific Railroad and is immediately north of the northern boundary line of the park. Here is located the entrance arch of basaltic rock. The road in general use is east of the arch, near the soldier station. All camping parties are required to register at *each of the soldier stations* passed in their trip around the park. Guides, horses, outfits, and supplies can be secured here. There is a fair camping site near the town. As camping is not allowed between Gardiner and Mammoth Hot Springs, the next camping place is 1 mile south of Mammoth Hot Springs. The distance from Gardiner to Mammoth Hot Springs is 5 miles; the road lies along Gardiner River.

Electric Peak is due west of the railroad station at Gardiner and is easily recognized by its sharp point and general reddish color. It is the highest mountain in the park (11,100 feet) and one of the peaks of the Gallatin Range. It is so named by reason of magnetic disturbances noted by the first party to ascend this mountain with surveying instruments.

Sepulcher Mountain is east of Electric Peak and southwest of Gardiner. It can be easily ascended by crossing Snow Pass, which is reached by trail, 1½ miles south of Mammoth Hot Springs, and turning to the northwest as the trail enters Swan Lake Basin. It has an elevation of 9,500 feet, and from its summit is obtained a magnificent view to the south and east. It is named from rocks on its eastern face, which suggest the head and foot stones of a grave.

Gardiner Canyon, entered 1 mile from Gardiner, is a deep, narrow gorge between walls of gray sandstone on the east and compact volcanic breccia on the west. *Eagle Nest Rock* on the east side has been a nesting place for ospreys from time immemorial.

Through *Boiling River*, 4 miles from Gardiner, a large volume of warm water from the Mammoth Hot Springs flows directly into Gardiner River. The water in this river is not boiling hot, as inferred by the name, but varies in temperature due to variations in the volume of underground steam, the highest temperature recorded being 136° F. in 1896.

From Boiling River the road ascends 600 feet in 1 mile to *Mammoth Hot Springs* (6,264 feet), the administrative and social head-

¹ The road from Yellowstone, Mont. (western entrance), connects with the belt line road at a point 10 miles south of Norris and at Firhole Cascades, 14½ miles south of Norris. (See p. 29.) The route from the western entrance to the belt road is given on page 44.

The road from the southern entrance joins the belt line road at Thumb. (See p. 40.) The route from the southern entrance is given on page 46.

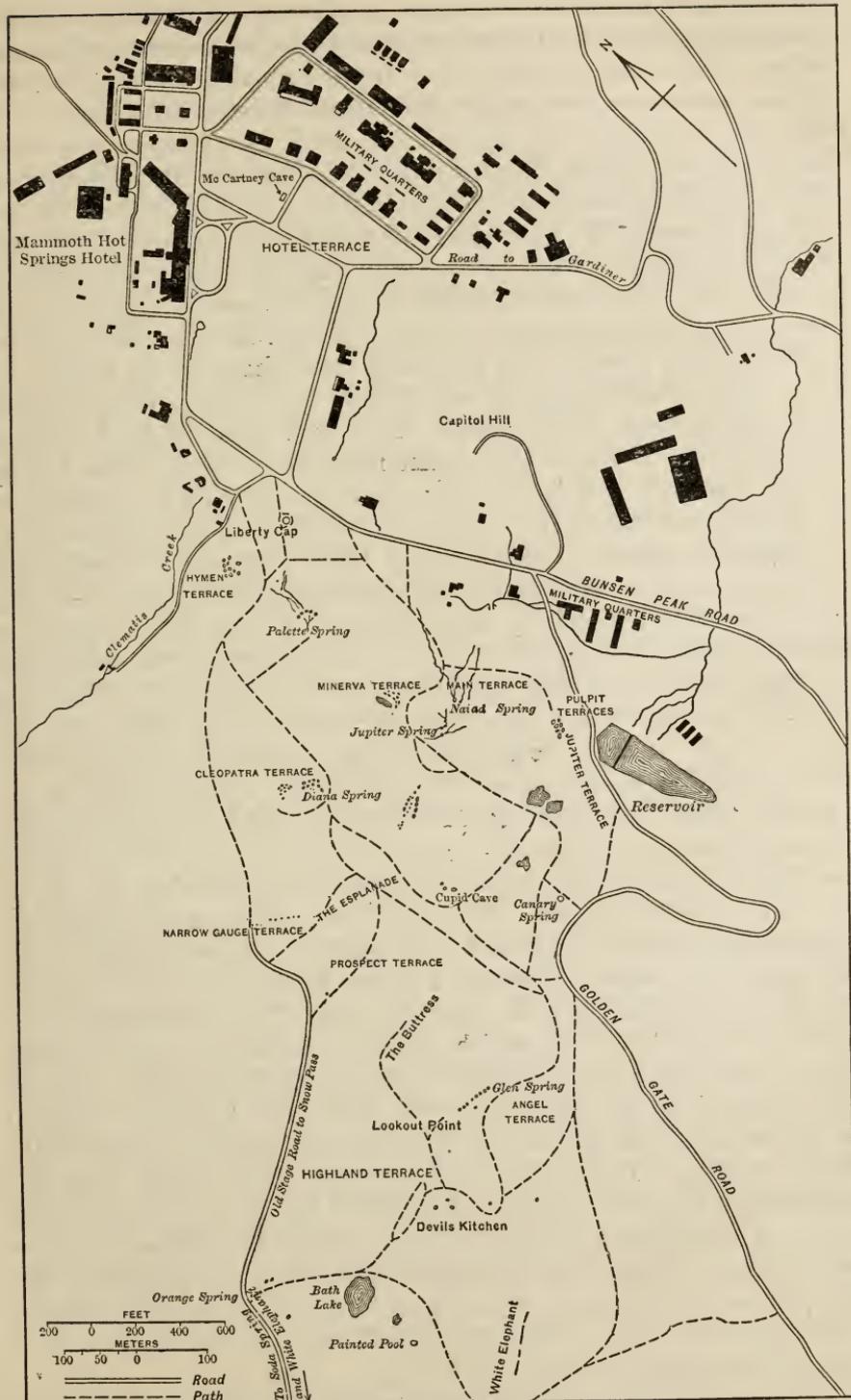
The road from Cody via eastern entrance joins the belt line road at a point about 2 miles north of Lake Hotel. (See p. 40.) The route from Cody is given on page 45.

quarters of the park. Here are located Fort Yellowstone (the headquarters for the Cavalry stationed in the park), United States commissioner's office, post office, and stores where supplies, curios, etc., may be purchased. A small herd of tame buffalo is kept 1 mile south of Mammoth Hot Springs on a branch road. There is a good camping place near the buffalo corral; no camping is permitted along Glen Creek nor in Swan Lake Basin, so the next camp site is 6 miles south of Mammoth Hot Springs on the road to Norris. The main attractions of this locality are the large and beautiful hot springs and terraces.

THE TERRACES AT MAMMOTH HOT SPRINGS.

In seeing the springs and terraces the direction here given is usually followed, although the trip may be reversed if desired. The path starts at *Liberty Cap*, an extinct hot-spring cone, now standing 40 feet above the surrounding formation. It is similar in all respects to the travertine deposits which make up the terraces and is the result of processes of erosion. At Mammoth Hot Springs the deposits from the hot water consist almost exclusively of carbonate of lime and are essentially different from those of the geyser basins, the latter being made up mainly of siliceous sinter. Under favorable conditions this carbonate of lime at Mammoth Hot Springs may deposit rapidly, as is shown by the thin film of travertine found coating all objects exposed in waters issuing directly from the springs. Small articles left for five or six days in the water frequently show a deposit one-sixteenth of an inch in thickness. There are some other minerals in these waters, but it is true here as at all other points that the most of the coloring is due to a low form of vegetable life that will grow in hot water up to a temperature of 180° F.

From Liberty Cap the path runs southwest for 400 feet and then turns to the south, ascending the first bend to *Minerva* and *Mound Terraces*. At *Mound Terrace* there is a side path to *Pulpit Terrace*, which passes around *Mound Terrace* to the left. Two hundred feet beyond *Minerva Terrace* the path climbs the next bench at a very steep angle and continues southeast to the main *Jupiter Spring*, which is at present the largest spring on this formation. Being large and safely approached on the south side, this spring gives the tourist his best point to view the general features of these springs. The water appears to be boiling, but in reality is not quite hot enough. At many of the springs upon the broad terraces the water presents the appearance of boiling springs, when as a matter of fact the temperature is far below the boiling point. The violent agitation is simply due to the free escape of carbonic-acid gas at the surface. The phenomena may be observed at a number of localities throughout the park. The boiling point on the terraces is 200° F. The blue color of



SKETCH OF MAP OF MAMMOTH HOT SPRINGS.

the water here and elsewhere in the park is not a mineral color nor a reflection from the sky, but is the natural color of clear water in large bodies. The water escaping from Jupiter Springs rushes down the hillside to the east forming the incomparably beautiful *Jupiter Terrace*. From Jupiter Spring the path leads in a general southwest direction past *Canary Spring*, now dry, across an amphitheater of old formation, dotted with small pine trees. At the southern end of this amphitheater the path passes around a shoulder and to the left lies *Angel Terrace*. *Glen Spring*, which is on the right, is now nearly or quite dry. The tourist passes up the next bench around Angel Terrace, keeping this terrace on his left until a shoulder of formation on the right is passed. The path then turns sharp to the right up a narrow gulch ascending the next bench. At the top of this bench at the left is the *Devils Kitchen*, which may be descended by means of the ladders as far as the tourist finds comfortable. The tourist should note that this is the only opening it is safe to descend, as at all the other caves and openings carbonic-acid gas is present to a dangerous extent. Indeed, many birds and small animals fall victims annually to the gas in these openings, although the principal ones have been covered by wire netting. A side path leads from Devils Kitchen to *Lookout Point* and the *Buttress*, two prominent points on the old inactive *HIGHLAND TERRACE*, from which the view is extensive. The main path then descends a short distance to the west to *Bath Lake*, where the bathing is very fine in the clear luke-warm water discharged into this lake from a hot spring on its southern shore. The path then runs over a slight rise to the northwest and down to *Orange Spring*, a very large prominent formation sometimes called *Orange Geyser*, although not possessing any of the characteristics of a geyser. Here the path merges with an old carriage road. Should the tourist be sufficiently interested, he may follow this road in a southerly direction to *Soda Spring*, *Stygian Cave*, and the *White Elephant*. Otherwise the road leads northeasterly to *Narrow Gauge Terrace*, which has become active within recent years at its western end. South of Narrow Gauge Terrace the path turns sharply to the right and runs along the *Esplanade* until it turns north and descends to a level formation, which is crossed to the *Diana Spring*. The waters flowing from this spring form the wonderful *Cleopatra Terrace*. About 500 feet from Cleopatra Terrace is a side path to *Palette Spring*, which has recently become active again. Beyond the side path the main path descends to the level of the starting point, with *Hymen Terrace*, in some respects the most beautiful of all, on the left. It will repay the tourist to make a side trip completely around this terrace.

McCartneys Cave is an old extinct spring, the opening of which is now covered by wire netting, on the grass lawn midway between the

hotel and Fort Yellowstone. *Cupids Cave*, west of Jupiter Spring, has been closed up by deposit from a hot spring and can not now be visited.

SIDE TRIPS FROM MAMMOTH HOT SPRINGS.

Around Bunsen Peak.—Twelve miles by a one-way wagon road, south from Mammoth. Passes buffalo corral, climbs side of Bunsen Peak to Middle Gardiner Canyon (second canyon in size in the park), Sheepeater Cliffs in canyon sides, along the canyon with view of Osprey Falls (150 feet), and returning via Golden Gate and main road. Guide not necessary.

Buffalo herds (tame).—Small show herd is kept in summer in corral 1 mile south from Mammoth Hotel, on road to Bunsen Peak. Guide not needed. Formation surreys from hotel drive to this corral. Main herd is kept at buffalo farm on Lamar River, 30 miles east from Mammoth, on stage road to Cooke. One hundred and ninety-three head of pure-blood bison under fence or herder. No accommodations nearer than Wylie Camp Roosevelt (12 miles), but plenty of good camping places and fine fishing.

Tower Falls (132 feet).—Near mouth of Tower Creek, 20 miles southeast from Mammoth, on road to Mount Washburn. Beautiful falls and mountain scenery. Guide not needed. Accommodations at Wylie Camp Roosevelt, 2 miles from Tower Falls, and at Shaw and Powell camp, one-half mile from the falls.

Petrified stumps.—Seventeen miles by wagon road and three-fourths mile on side road southeast en route to Tower Falls. No guide needed.

Specimen Ridge and Fossil Forest.—Twenty-four miles southeast by wagon road, thence 4 miles by trail. Guide needed.

Northeastern portion of park.—A trip could be made to include the petrified trees, Tower Falls, main buffalo herd, Specimen Ridge and Fossil Forest, and some of the best fishing in the park in Yellowstone River in vicinity of Tower Falls, Lamar River, and Slough Creek. Wylie permanent camp (Roosevelt) on Lost Creek, 2 miles northwest from Tower Falls (18 miles from Mammoth), and Shaw and Powell permanent camp (20 miles from Mammoth), provide accommodations after Mount Washburn Road is opened in the spring. Wagon road to Tower Falls, Slough Creek, and Soda Butte, but other points would have to be reached by trail, and guide and pack train would be needed. Excellent camping places in abundance on this trip.

MOUNTAIN CLIMBING.

Electric Peak (11,100 feet).¹—Ten miles northwest by trail; 8 miles may be done with saddle horse, balance on foot, and a portion

¹ There is no drinking water on top of any of these mountains.

of it is difficult and somewhat dangerous. Highest mountain in the park. Fine view on all sides. Guide needed.

Bunsen Peak (8,600 feet).¹—South 7 miles. Saddle horse can be ridden to top. Fine view. Guide not necessary.

Mount Everts (7,900 feet).¹—Northeast. Saddle horse can be ridden up from either end, over the top, and down the other end; total distance, about 15 miles. No guide needed.

Fishing trips.—One-day fishing trips from Mammoth Hot Springs may be made with rig, saddle horse, or even on foot by good pedestrians, as follows: South on main road to Willow Creek, Indian Creek, Upper Gardiner and branches, and Glen Creek, for small eastern brook trout. Distance 4 to 10 miles. East to Lava Creek, 5 miles, for small native or eastern brook trout, or to Blacktail Deer Creek, 8 miles, for small native or rainbow trout. East or northeast to main Gardiner River for whitefish, native, Loch Leven, and eastern brook trout. North, 6 miles to Yellowstone River for whitefish and native trout.

MAMMOTH HOT SPRINGS TO NORRIS.

Three miles from Mammoth Hot Springs, on the road to Norris (20 miles), are the *Silver Gate* and the *Hoodoos*, altitude 7,000 feet. The massive blocks of travertine, piled up in a most confused manner and covering several acres in the neighborhood of Silver Gate, were evidently thrown down from higher levels, probably as the result of some violent earthquake shock, accompanied by powerful lateral thrusts. One-half mile farther is *Golden Gate* (7,245 feet), where the concrete viaduct should be noted as part of the difficult engineering this pass presented. *Bunsen Peak* is on the left, *Terrace Mountain* on the right. At the head of Golden Gate Canyon is *Rustic Falls*.

Immediately after passing Rustic Falls (70 feet high) the road leads into *Swan Lake Basin*. The abrupt passing from the frowning walls of Golden Gate Canyon to this open, smiling mountain valley is typical of the many unexpected changes that form the scenery along the park roads.

On the right are the many peaks of the *Gallatin Range*. *Electric Peak*, at the extreme north; then the long, flat summit of *Quadrant Mountain*, then *Bannock Peak*, *Antler Peak*, *The Dome*, *Trilobite Point*, and *Mount Holmes* on the extreme south. Mount Holmes, especially, is visible from many points along the road. *Glen Creek*, which flows through Swan Lake Basin, contains many red speckled brook trout. Camping is not allowed along Glen Creek or in Swan Lake Basin.

¹ There is no drinking water on top of any of these mountains.

Swan Lake (7,256 feet) is near the 5-mile post, and the headquarters camp of the Wylie Permanent Camping Co. is passed just before reaching the 6-mile post. After passing the 6-mile post camping is permitted at any point over 100 feet from the road. However, as the timber commences near this point, the openings where grass can be obtained are noted on the succeeding pages as camp sites. Between 6-mile post and Apollinaris Spring, 10 miles from Mammoth Hot Springs, are many good camp sites. All the streams along the road have trout in them.

Gardiner River (7,300 feet) is crossed at the 7-mile post, and a little farther at the right of the road is the first camp of the Shaw & Powell Camping Co. Here the road enters *Willow Park* (7,300 feet), comprising the valley of *Obsidian Creek*, which is frequently crossed by the dams of beaver and dotted by their ungainly houses.

At *Apollinaris Spring* (10 miles from Mammoth Hot Springs, altitude 7,300 feet) is a landing platform on the left of the road for those tourists who wish to stop and try this water. On the opposite side of the road is a good camping place, the next camp site being 4 miles farther on the right side of the road.

Obsidian Cliff (12 miles from Mammoth Hot Springs, altitude 7,350 feet) is a cliff of hard, black volcanic glass. It is the most prominent exposure of this rock in the park. Obsidian also occurs in the red and white forms. It was much used by Indians for arrow heads and other stone implements, this being one of the few points in the park frequented by them before its discovery by white men. On the right at this point is *Beaver Lake*, the dam here being very long and heavy. An old beaver house can be seen near the south end of the lake.

A camp site (14 miles from Mammoth Hot Springs) is passed a mile and a half south of Beaver Lake; next camp site is just south of *Bijah Spring*, 3 miles farther on.

Roaring Mountain ($15\frac{1}{2}$ miles from Mammoth Hot Springs, altitude 7,550 feet) is especially to be noted as a late development of thermal action. In 1902 this mountain side was covered by a heavy growth of pine timber, and the only evidence of subterranean heat was a small opening among the pines 30 feet square on the extreme top of the mountain, in which a little steam could be seen rising from the ground. In the year mentioned activity became greater; the formation gradually spread to its present size, and it is not certain that the limit has yet been reached.

Twin Lakes (16 miles from Mammoth Hot Springs, altitude 7,513 feet) are two beautiful lakes, very close together, connected by a small brook, yet they are of different color.

Bijah Spring (17 miles from Mammoth Hot Springs, altitude 7,500 feet) is alongside the road. There is a good camping place just

south of this spring; the next camp site is on the canyon road a half mile beyond Norris ($3\frac{1}{2}$ miles from this point).

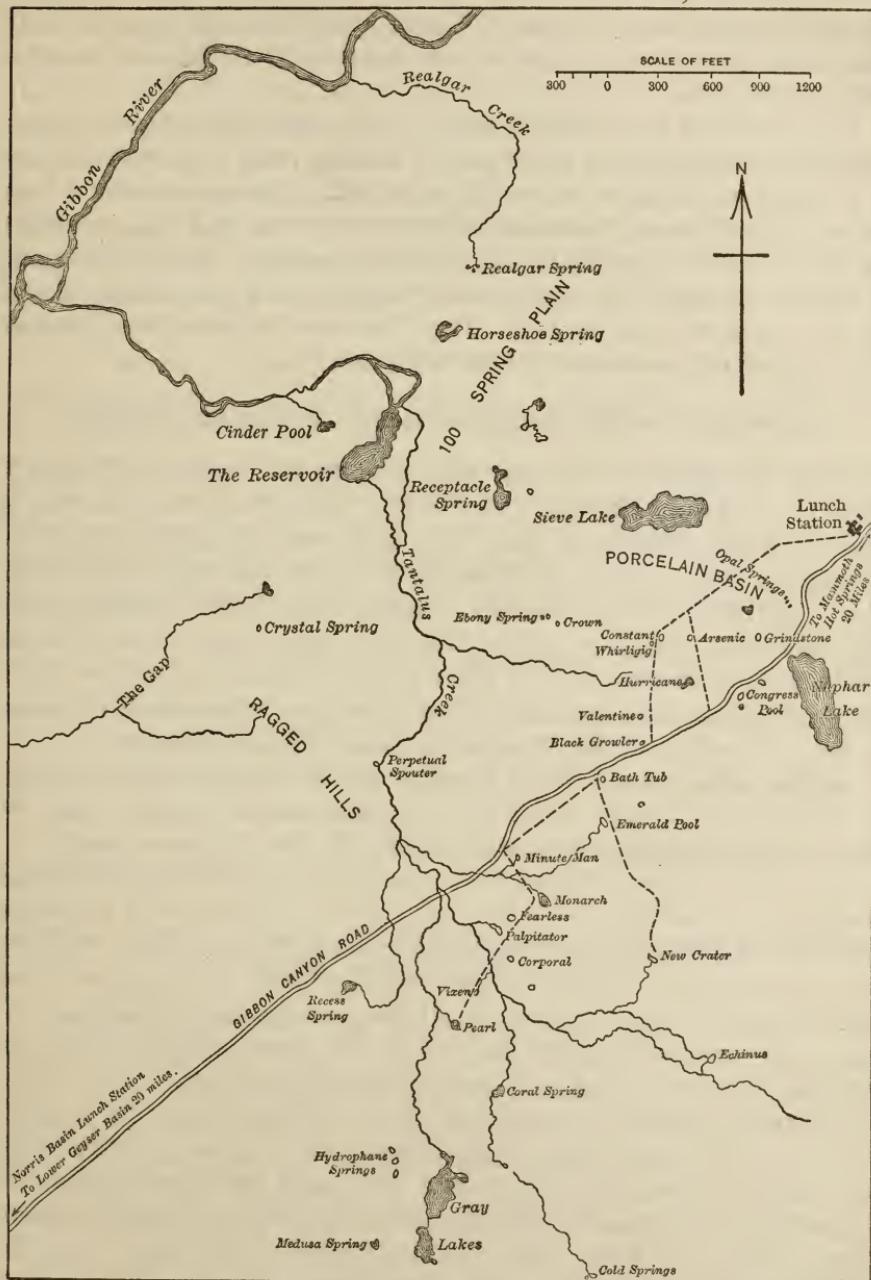
The *Frying Pan* (18 miles from Mammoth Hot Springs, altitude 7,500 feet) is a peculiar hot spring, stewing away in a manner that earned it its name.

NORRIS GEYSER BASIN.

Norris Geyser Basin (20 miles from Mammoth Hot Springs, 25 miles from Gardiner, altitude 7,470 feet).—The soldier station is at the crossing of the Gibbon River, where there is good fishing for rainbow trout. The road leading to the right in a southerly direction is the regular loop road to the Geyser Basins, while that leading to the left in an easterly direction is the loop road returning from the canyon. The geyser basin itself is a half mile south of the junction.

The path for viewing this formation starts immediately in front of the lunch station and follows the board walk in a southwest direction to the road near Black Growler. Owing to the unsafe condition of the crust through this part of the trip it is not wise to step off the walk. *Constant Geyser*, *Whirligig Geyser*, *Valentine Geyser*, and the new opening of the *Black Growler* are passed in the order named. The new opening of the Black Growler first made its appearance in August, 1912, and has steadily increased in power ever since; it is about 100 feet from the old opening and farther down the hill. This serves to illustrate the main characteristic of this basin, which is its unstableness. The phenomena of this basin, with the possible exception of the Constant and Minute Man, are constantly changing in size, locality, character of eruption, and nature of contents of tube. The old opening of the Black Growler is near the road and is now inactive. Tourists now proceed southwest along the road to the *Bathtub*, on the left. Some seasons this is an active geyser, playing at intervals of a few minutes, in other years it boils violently, but does not throw out any water. From the Bathtub a branch path leads south past *Emerald Pool* and some small paint pots that have developed since 1905 to the *New Crater Geyser*. This geyser is a comparatively recent outbreak of a well-known old vent, but unknown to those who witnessed the first display of the so-called New Crater. The texture and color of the most recent deposits are due mainly to salts of iron derived from ferruginous minerals in the fresh rock exposed by the opening of the New Crater. The floor of the Norris Geyser Basin consists of siliceous sinter similar in all respects to the sinter bottoms of the other geyser basins. It is frequently covered with brilliantly tinted algal growths, which flourish luxuriantly in the warm waters. After returning to the Bathtub the path leads southwest down the hill to the platform near the *Minute Man Geyser*.

Three hundred feet southeast of the Minute Man, near the base of the hill, is Norris's biggest geyser, the *Monarch*. Unfortunately this



SKETCH MAP OF NORRIS GEYSER BASIN.

geyser has the varying habit, and it is almost impossible to foretell what its period between eruptions will be. During 1913 it played

every hour, and further varied its custom by throwing black mud instead of clear water as it had previously done. Some seasons it has been known to play only once or twice. The path continues south to *Fearless*, *Palpitator*, *Corporal*, *Vixen*, and *Pearl Geysers*, all small and with such uncertain periods of eruptions that they are unsatisfactory to visit.

Congress Pool is on the left of the road south of the lunch station, and has at times been a quiet pool, a boiling pool, a steam-vent, and a mud geyser, changes occurring so rapidly that one month it may have quite different characteristics from what it had the preceding month or what it may have the following month. The *Echinus* and *Valentine Geysers* are well worth seeing, but have seldom played during the last season or two. The *Hurricane* is now a mud vent on the right of the road south of the Congress Pool.

NORRIS TO LOWER GEYSER BASIN (FOUNTAIN HOTEL).

From Norris the road leads southwest to the Fountain Hotel (20 miles). It passes through *Elk Park*, 2 miles from the junction at Norris, where there is a camp site, then runs along Gibbon River through a short canyon, interesting from the peculiar rock formation. Through *Gibbon Meadow*, 4 miles from Norris, altitude 7,315 feet, are good camping places; the next camp site is below Gibbon Falls, 5 miles farther on, but there is no forage at the Gibbon Falls camp, the first camp beyond Gibbon Meadows where there is forage being on Firehole River, 13 miles from the Gibbon Meadows.

At the south end of Gibbon Meadow a branch road leads to the left to *Gibbon (or Artist) Paint Pots*, located on the mountain side, 50 feet above the meadow level and a half mile from the main road.

Just after crossing Gibbon River the first time, (about $4\frac{1}{2}$ miles from Norris) is a trail that leads back up the river, then up the mountain for about three-fourths mile to the *Monument Geyser Basin*, which is very interesting on account of the peculiar forms of the geyser cones and because it is the highest of all the park geyser formations. It is not, however, of enough interest to the casual visitor to pay for the visit, the thermal activity being practically extinct.

The road now leads through the main *Gibbon Canyon* for 5 miles, first on one bank of the rapidly flowing stream, then on the other. The canyon is characterized by fine views and many curiosities, but the tourist has time and inclination now only for the more prominent. *Beryl Spring* (5 miles from Norris, altitude 7,296 feet) is a fine boiling spring close to the road. *Iron Spring* (8 miles from Norris, altitude 7,100 feet) is a cold mineral spring that, like *Apollinaris Spring*, is usually sampled by tourists. *Gibbon Falls*, 80 feet high ($8\frac{1}{2}$ miles from Norris), is the very pretty waterfall of Gibbon River

on the left as the road descends. One-half mile farther is a good camping site on the left, but it has very little, if any, forage for horses.

Ten miles from Norris a branch road to the west leads to the western entrance. At this point the road leaves Gibbon River, climbs the mountain to the left, and passes for nearly 5 miles over a rolling sandy country covered by pine forests. The road then descends to *Firehole River* at the *Cascades of the Firehole* (14½ miles from Norris). They are well worth the slight stop and effort required to reach them. Another road from the western entrance joins the belt road at Firehole Cascades. There is good fishing in Firehole River for eastern brook, Lock Leven, Von Behr, native, and rainbow trout, and also whitefish.

The road now leads up Firehole River, and just north of the 17-mile post from Norris is a good camp site. Camp sites are now almost continuous for 2 miles. At the 18-mile post a soldier station is passed; in front of this station a short road to Excelsior Geyser and Upper Geyser Basin branches out to the right. This short road, however, misses most of the Lower Geyser Basin. One-half mile from the soldier station Nez Perce Creek is crossed. This is the last camp site till Excelsior Geyser, 4½ miles farther, is reached.

SIDE TRIPS FROM FOUNTAIN HOTEL.

Great Fountain Geyser and Firehole Basin.—One and one-half miles southeast by wagon road. No guide needed.

Twin Buttes and Fairy Falls (250 feet).—Three miles southwest by trail. No guide necessary.

Fishing.—Good fishing in Firehole River and branches within easy distance of hotel.

LOWER GEYSER BASIN (FOUNTAIN HOTEL) TO UPPER GEYSER BASIN (OLD FAITHFUL INN).

Lower or Fountain Geyser Basin (20 miles from Norris, 40 miles from Mammoth Hot Springs, and 45 miles from Gardiner, altitude 7,240 feet) is the largest of the park geyser basins, but its curiosities are too scattered to admit of more thorough examination than can be given to the more prominent ones along the road.

After passing the hotel and crossing a flat a few hundred feet wide, the road ascends a low hill to the *Mammoth Paint Pots*, a striking example of what has been given the name "paint pots." They occur everywhere throughout the park, but the more prominent are here and at the West Thumb.

From the unloading platform at the *Mammoth Paint Pots* a side path leads along the ridge through the pines to the *Fountain Geyser*,

which is surrounded by a great many small geysers. The Fountain Geyser was in former years very prominent, more on account of the vast quantities of water erupted than of its height. Since 1911 the eruptions have been erratic and seldom witnessed.

The *Clepsydra*, *Bellefontaine*, *Jelly*, and *Jet* are all small geysers near the Fountain; usually one or more of them is in eruption. They are given little attention because of the greater attractions that lie before the tourist.

South of the Mammoth Paint Pots a branch road leads to the left to Firehole Lake and other curiosities. It is usually taken by the tourist unless it is important to hurry on. The main road proceeds in a straight line in a southwest direction. The first interesting feature is *Hot Lake*, at the western end of which is a pair of constantly playing geysers, known as the *Black Warrior* or *Steady*. But the most remarkable feature here is the second lake at the extreme western end of the road, known as *Firehole Lake*. If the tourist leaves his conveyance and follows the path a hundred yards or so to the extreme western point of the lake, he will see the so-called flames. But they are to be seen from only two points, and should the wind be causing a disturbance of the water he may not see them at all. At the eastern end of this small lake is a circular opening in the bottom of the lake of a deep-seated spring not unlike other vents of thermal waters. Through this vent, which usually stands full of clear, transparent water, numerous bubbles of mingled air and superheated steam rise gradually. Before reaching the surface they unite to form one large mass that in its upward passage strikingly resembles a flame of fire. This continues till the bubble bursts, only to be followed by a repetition of the phenomenon. The explanation is that the slightly agitated water is reflected in the thin film of the ascending volume of gas. The phenomena are far better seen at Firehole Lake than elsewhere, but under favorable conditions they may be seen at other localities, but in a far less striking manner. On the return the road branches to the left, leading to the *Great Fountain Geyser*, playing every 8 to 12 hours, and rightly considered as one of the sights of the park. Even during the quiescent period the beauty of its pool and the delicate tracery of its formation are worthy of close examination.

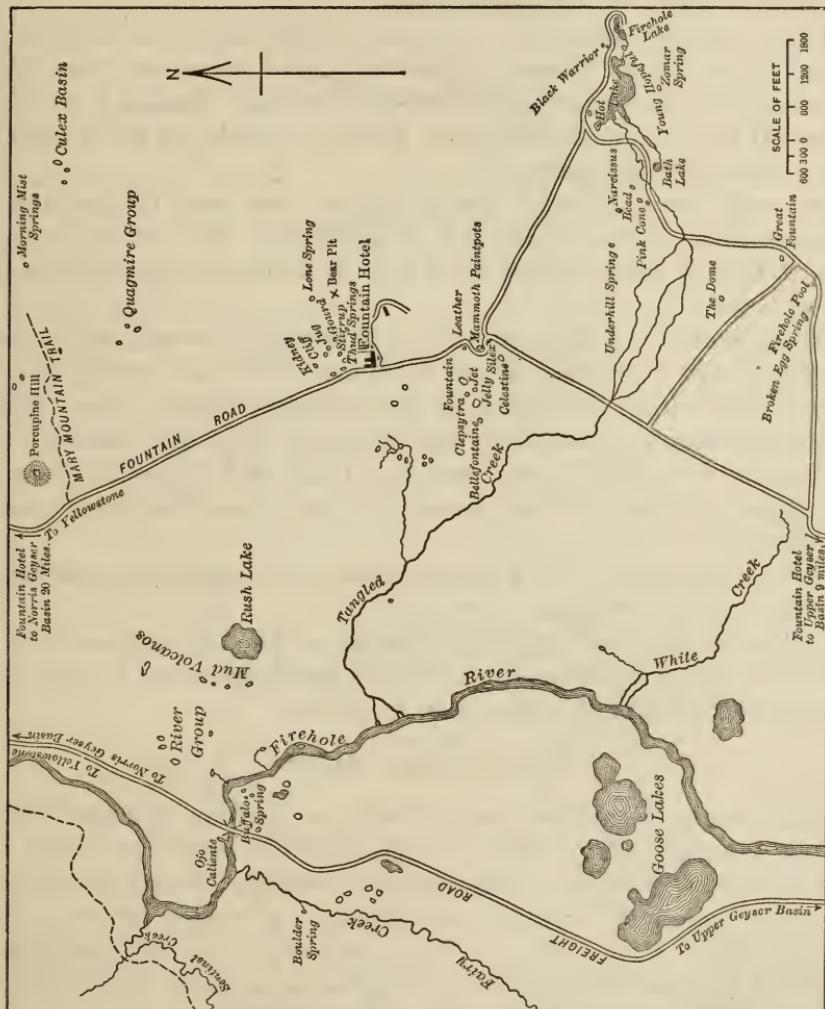
Between Firehole Lake and the Great Fountain, *Bath Lake*, with its bathhouse, is passed; *Young Hopeful*, *Narcissus*, *Bead*, and *Pink Cone* are all small and interesting geysers.

To the west of Great Fountain a footpath a half mile in length runs past *Surprise*, *Diamond*, *Five Sisters*, and *Buffalo Springs*. All are worth visiting if one has the time.

From the Great Fountain two roads lead back to join the main road. The one running northwest passes the imposing cone of the

White Dome. This cone is large and interesting, but the geyser itself is too feeble to detain the tourist long.

The other road leads west, and about 200 feet from the Great Fountain is a violently boiling spring close to and at the right of the road. This is *Firehole Pool*, with phenomena similar to Firehole



Lake, but it is often necessary to walk entirely around the spring to find a favorable point of view.

One hundred feet farther, at the right, is *Broken Egg Spring*, an exquisite dainty. For the next mile or two the road approaches *Twin Buttes*, a prominent landmark in the southern end of Lower Gevser Basin and west of Firehole River.

Midway Geyser Basin (3 miles from Fountain) is, properly speaking, a part of the Lower Geyser Basin, but owing to the size of its

features it has often been given a separate designation. There are numerous camp sites along the river above and below Excelsior Geyser. The next camp site is at Biscuit Basin, 3 miles farther on.

The greatest attraction here is *Excelsior Geyser*, which was the largest geyser in the park, but which has not been active since 1888. The beautiful tints and colors of *Prismatic Lake* and *Turquoise Spring* make them worthy companions.

Biscuit Basin (6 miles from Fountain) is in reality the lower end of the Upper Geyser Basin. There is a good camp site here, the next being near Riverside Geyser $1\frac{1}{2}$ miles farther. Fishing here, and in fact all the way from Nez Perce Creek, is good, but the constant fishing makes the fish wary.

The road forks opposite Biscuit Basin; the road on the right should be taken if Biscuit Basin is to be visited. If no stop is to be made at Biscuit Basin, either road may be taken, as they unite near Mirror Geyser.

Biscuit Basin is on the west side of Firehole River and is reached by a footbridge. *Sapphire Pool*, one minute quiet and two or three minutes later violently boiling, is the attractive feature here. The peculiar formation at its south end gives the name of "Biscuit" to this basin. A short distance west the *Jewel* and *Silver Globe* are small geysers whose striking formation gives them their characteristic names.

Mystic Falls is on Little Firehole River some distance to the west and rather difficult to find.

A half mile after leaving Biscuit Basin, at the right and below the road, is the *Artemisia Geyser*, which has a beautiful crater and throws a tremendous volume of water when in action.

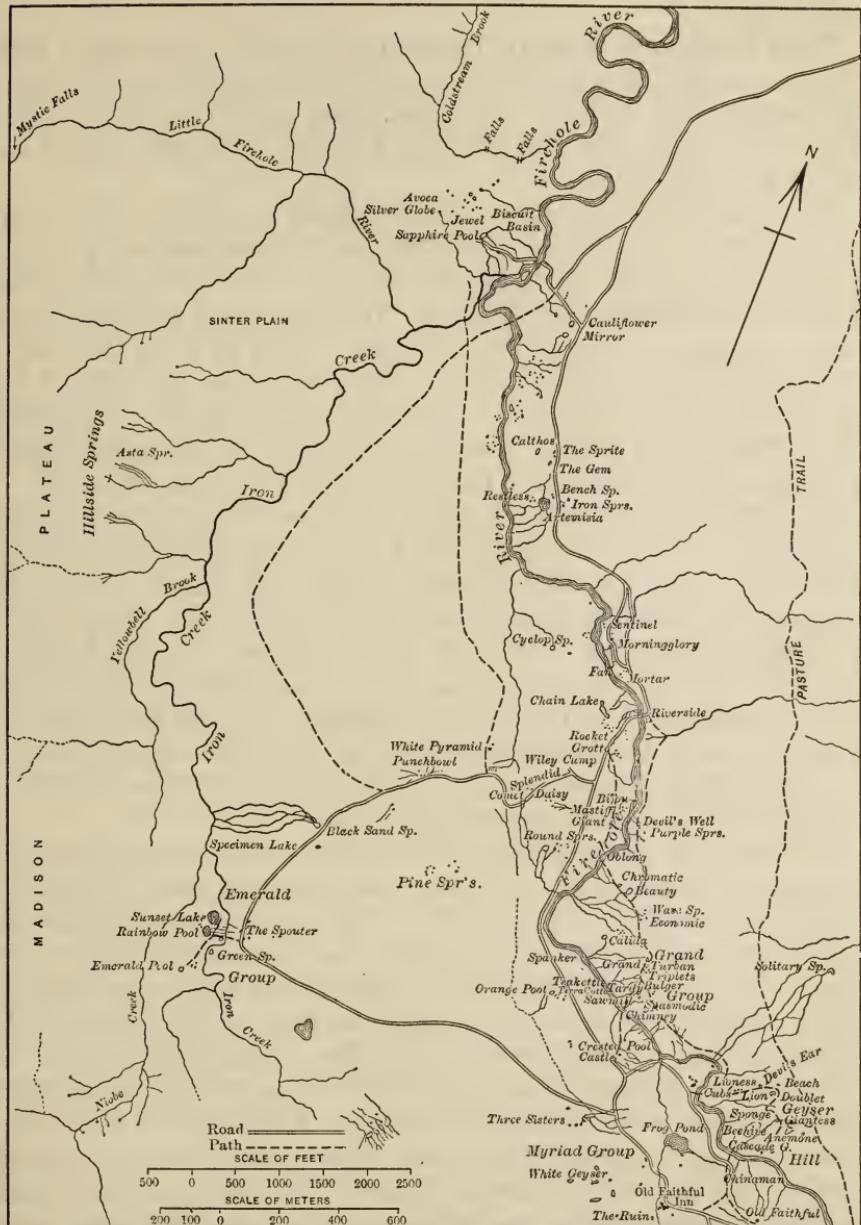
UPPER GEYSER BASIN.

A mile and half south of Biscuit Basin, at the base of a small hill, the road branches again. The road on the right should be taken, as on it is *Morning Glory Spring*, whose beautiful shape and color make it an object of universal admiration. At this point we enter that far-famed *Upper Geyser Basin*, where the largest and finest geysers of the world are gathered together in a small space only a mile north and south by a half mile or less wide.

The *Fan Geyser* is on the right between the road and the river. The *Mortar* is a few feet farther up the river. At their best these geysers are very interesting, but unfortunately have been seldom in eruption for the last two seasons.

At the left, just above the bridge on the extreme edge of the river, is the *Riverside*, one of the prominent geysers of the basin. Its period is very regular, ranging from five to six hours. An overflow from the

lower opening presages an eruption within an hour. A camp site is located on the knoll above the Riverside Geyser. Camping not being



SKETCH MAP OF UPPER GEYSER BASIN.

allowed in the basin, the next camp site is south of Old Faithful Geyser, nearly 2 miles by road from this point.

At the left and close to the road is the *Grotto Geyser*, differing from most in that the empty crater is more interesting than the eruption. At this point it is usual to follow the path instead of keeping to the road.

From here to Old Faithful Geyser there are two roads and a path. The road to the left is the direct road, but it does not pass any curiosities except Castle Geyser. (See description under the trip by path.) The road to the right (the Blacksand Road) is slightly longer and passes many curiosities.

The road to the right turns up the hill and passes the Wylie camp on the right. Immediately beyond the road comes close to a group of geysers and springs. Of these, the *Daisy* is a powerful little geyser that plays frequently and regularly. During the last five years it has been increasing in frequency and power. Next to it on the west is the hooded opening of the *Comet*, while over near the edge of the formation is the *Splendid*. The Comet and Splendid very seldom play. These three geysers as well as all springs in this neighborhood are connected. When one of the geysers plays it affects them all.

A quarter mile beyond the road passes a crested spring on a mound on the right. This is the *Punchbowl*. Then the *Black Sand Spring*, *Specimen Lake*, and the *Spouter Geyser* are passed. Near the Spouter is a footbridge to the west bank of Iron Creek. On crossing the bridge, immediately before one are the attractive *Sunset Lake* and the *Rainbow Pool*, and to the south lies *Emerald Pool*, one of the most beautiful of the Upper Basin springs. As the road leads on across a more or less level stretch it passes the *Three Sisters* group of springs, and shortly afterwards joins the main road a couple of hundred yards or so north of Old Faithful Inn.

L The path that leaves the road at the Grotto Geyser leads first to the shattered cone of the *Giant Geyser*, the greatest geyser of them all, but rather uncertain in its periods. At the right of the Giant are the *Bijou* and *Mastiff*, two small geysers that are playing most of the time. On the opposite side of the river east of the Giant are three pools, normally quiet but apparently connected to the Giant, as the surface of their water lowers each time their big neighbor erupts. A short distance farther is the crater of the *Oblong Geyser*, beautiful to look at either while quiet or in action. Crossing the river on a footbridge and continuing, the path passes *Chromatic* and *Beauty Springs* and on to the *Economic Geyser*. For many years this small and active geyser played every three minutes, using the same water over and over again. But lately its action has been erratic and sometimes months pass without it being seen in action.

A quarter mile farther to the south, at the base of a rock-covered hill, is one of the finest geysers, the *Grand*, its eruptions being smooth, strong, and powerful, as well as beautiful to behold. Imme-

diately to the north is the *Turban Geyser*, so called because of the image of a turban seen in a detached piece of its northern rim. All the springs and geysers in this section seem to be more or less connected to the Grand, for while each geyser plays independently their water supply seems to be affected by the action of the Grand.

The *Triplets*, *Bulger*, *Chimney*, and *Teakettle* are for the most part quiet pools, but sometimes violently agitated. The *Tardy* is a very powerful little geyser, with such a small opening that there is a sharp whistling noise to each eruption. The *Spasmodic* is a small geyser. But the important member of this group is the *Sawmill Geyser*; here the violent whirling motion of its waters in action is due, no doubt, to the explosion of bubbles of superheated steam, aided, perhaps, by some peculiarity of its crater.

It is usual here to turn to the right and cross the river on the footbridge. The path then leads up the hill to the *Crested Pool*, a beautiful open spring of great depth. It never boils, nor is it at all affected by the eruption of the near-by *Castle Geyser*. This is another powerful geyser, and is, so far as known, unconnected with any other spring or geyser. It is also peculiar in that it frequently spurts up 15 or 20 feet, just as if it might play. This spouting sometimes continues for several days, and is usually an indication that the geyser will *not* play. This geyser has the highest and probably the most remarkable cone of any.

From this point the path leads to the soldier station on the river bank, where the river is crossed again to the east side on another footbridge. Immediately in front and a hundred yards from the river is a rounded hill of geyser formation, with a group of four geysers on its top. These are the *Lion*, *Lioness*, and two cubs. The *Lioness*, which is the large open crater of boiling water, and the large cub, the smaller of the two cones, are very seldom in eruption. But the little cub, the smallest opening, plays every two hours, and the *Lion*, the largest of the cones, plays frequently.

To the west on the next elevation is the *Devils Ear*, and a little farther on is the *Doublet*, both quiet boiling springs. Then the path turns to the south to the *Sponge Geyser*, remarkable for the color and texture of its formation and the explosiveness of its eruptions, although it only throws its water 2 or 3 feet.

Next a low mound to the south is ascended, and on it are located three open pools, sometimes quiet, sometimes boiling, and sometimes in action. The connection between all three is very close. The first pool with the raised rim is the *Teakettle*; the second, the smaller of the rimless pools, is the *Vault*; the largest pool is the crater of the *Giantess*, a large, powerful, and uncertain geyser. It is just as well not to approach the *Giantess* too close; it has not much consideration for the safety of its visitors, and has been known to break forth



into eruption with no warning whatever from its quiet, smiling crater. When this geyser does start, the vast masses of erupted water are wonderful to behold.

Now the path turns south and then down toward the river, but the tourist should keep far enough to the south to avoid the small openings that indicate the dangerous nature of the ground between the Giantess and the nearest point of the river.

On the edge of the high bank of the river is the broken crater of the old *Cascade Geyser*. Immediately opposite on the west side of the river is the small round opening of the *Chinaman Spring*.

At this point the tourist turns a little north of west to the cone of the *Beehive*, the most artistic and symmetrical of all.

Crossing the bridge below the Beehive and going south to the very head of the basin, the tourist arrives at *Old Faithful Geyser*, the tourists' friend. Other geysers may be more powerful, others may throw their water higher, others may have more beautiful craters, but Old Faithful has some of each of these qualities, and, in addition, it plays often and with regularity. It had the honor of welcoming the first explorer, and never since that day has it failed any tourist who cared to look at it.

The head of the Upper Basin is 9 miles from the Fountain, 29 miles from Norris, 49 miles from Mammoth Hot Springs, 54 miles from Gardiner, and the altitude is 7,330 feet. A general store is located here near the hotel. The road leaves the basin south of the Old Faithful for the West Thumb, 19 miles away. There are camp sites south of Old Faithful for a half mile or as far as the first wagon bridge across Firehole River. The forage, however, is scarce at these sites. The next camp site is 4 miles farther, on the branch road to the *Lone Star Geyser*, which is three-quarters of a mile from the main road.

SIDE TRIPS FROM OLD FAITHFUL INN.

Shoshone Lake and Geyser Basin.—Four and one-half miles by road via Lone Star Geyser, thence 8 miles via trail. Union Geyser 100 feet high; Bronze Geyser. Guide needed. Fishing for Loch Leven, lake, and eastern brook trout.

UPPER GEYSER BASIN TO THUMB OF YELLOWSTONE LAKE.

As the road leaves Upper Geyser Basin it begins its long climb to the *Continental Divide*, first along Firehole River and then up Spring Creek Canyon. Two miles from Upper Basin there is a platform on the right to enable one to view the pretty *Keppler Cascades*.

At the junction of Firehole River and Spring Creek ($3\frac{1}{2}$ miles from Upper Basin) the road leaves the Firehole, but there is a branch road to the right running three-quarters of a mile to the *Lone Star*

Geyser, which plays for 10 minutes at intervals of 40 minutes, height 40 to 60 feet, altitude 7,600 feet. On this branch road are good camp sites, the next being 6½ miles farther up the main road at *De Lacy Creek*.

The first crossing of the *Continental Divide*, 8½ miles from Upper Basin, at an altitude of 8,240 feet, is through *Craig Pass* alongside of a little lily-covered lake, *Isa Lake*, whose waters in springtime hesitate whether to flow out one end into Pacific waters or out the other into Atlantic waters and usually compromise by going in both directions.

Then the road turns down the narrow and tortuous *Corkscrew Hill* to a little valley at *De Lacy Creek*, hemmed in by pine-covered heights on all sides. Here is the last camp site till Dry Creek is reached between 1½ and 2 miles farther on. Forage is scarce, and as there is not much water at the next point (2 miles from Dry Creek) it is well to be prepared to go on to the Thumb, 9 miles from *De Lacy Creek*.

Soon after leaving *De Lacy Creek* the road comes out on *Shoshone Point* from which *Shoshone Lake* is in plain sight and the *Teton Mountains* can be seen on a clear day. There is fine fishing in Shoshone Lake, which can be reached on horseback by following down *De Lacy Creek* for a distance of about 3 miles from the main road.

The road descends a little from Shoshone Point and then climbs to the *Continental Divide* again at an altitude of 8,345 feet (15½ miles from Upper Basin).

From this point it pitches rapidly down through dense timber until within 1 mile of the Thumb, when a glimpse of *Yellowstone Lake* is had. A little later *Duck Lake* is passed far below the road on the left.

As the road leads out to the lake shore the soldier station is on the left where the road forks. The road to the right leads to the hotel company's lunch station, the boat landing, Lewis Lake, the South Boundary, and Jackson Lake. The road to the left is the main road. At this point the tourist may ride on the boat to the Lake Hotel (16 miles) on payment of extra charge. This trip by boat is often a relief from the dust and gives many views of the lake that can not be seen from the road.

SIDE TRIPS FROM THUMB LUNCH STATION.

Jackson Hole and Lake.—Forty-eight miles (25 outside of park). Lewis Lake and Falls. Teton Mountains in Jackson Hole; Grand Teton, 13,691 feet. Fishing for native and lake trout. Wagon road.

Heart Lake and Geyser Basin.—Twelve miles south by trail. Guide needed. Fishing for lake and native trout.

THE THUMB.

At the Thumb the tourist should see *The Paint Pots*. They are not as large as the ones at the Fountain, but are more brilliantly colored. The *Fishing Cone* is situated on the margin of Yellowstone Lake, a quarter mile north of the boat landing. The *Lakeshore Geyser*, which frequently plays to a height of 30 feet, is on the lake shore, 200 feet north of the boat landing.

THUMB TO LAKE HOTEL.

Should the traveler elect to follow the road from West Thumb (19 miles from Upper Basin, 28 miles from Fountain, 48 miles from Norris, 68 miles from Mammoth Hot Springs, 73 miles from Gardiner, altitude of Yellowstone Lake 7,741 feet), he will follow the shore of Lake Yellowstone for about 5 miles. There are camp sites 2 miles from Thumb, 5 miles from Thumb, and on Bridge Creek, 11 miles from Thumb.

As the road passes around Thumb Bay fine views of *Mount Sheridan* to the south are had. Near the top of the hill is obtained a fine view of Thumb Bay on the right; a little later the *Knotted Woods* on the left are passed. The road then traverses a rolling table-land covered with dense pines. At a point 10 miles from Thumb the road crosses Bridge Creek; a half mile farther on is a camp site. *The Natural Bridge* is about $1\frac{1}{2}$ miles from Thumb; it is 200 yards from the road on the left and in plain sight. There is a camp site at this point, and from here to the Yellowstone Canyon good camp sites are numerous.

At the *Lake Hotel* (16 miles from Thumb, 35 miles from Upper Basin, 44 miles from Fountain, 64 miles from Norris, 84 miles from Mammoth Hot Springs, 89 miles from Gardiner) are the boat landing and a general store selling supplies and curios. There is good fishing all along Yellowstone Lake, but especially at the outlet of the lake, $1\frac{1}{4}$ miles north. Boats and tackle may be rented at the boat landing.

LAKE HOTEL TO GRAND CANYON.

Nearly 2 miles from Lake Hotel the road to East Boundary and Cody branches off to the right. Seven and one-half miles from Lake Hotel there are platforms for tourists wishing to see *Mud Volcano* and *Grotto Spring*, located 100 yards to the left of the road. There is good fishing all along the river. The road soon enters and crosses *Hayden Valley* and then enters a narrow valley by side of the Yellowstone River.

Fifteen miles from Lake Hotel, and right at the head of the rapids, a branch road leads to and across the *Chittenden Bridge* to the east for $2\frac{1}{2}$ miles to *Artist Point*. From this branch road there can be

obtained magnificent views of the Upper Falls, the Lower Falls, and the Grand Canyon. There is a path along the rim that can be followed on foot, and a great many views seen to advantage.

The main road leads to the left. In about a half mile the platform at *Upper Falls*, 109 feet high, is reached, steps leading down to the rim of the falls. A few hundred feet farther is the soldier station and then shortly after the roads fork again. This is Canyon Junction, 16 miles from Lake, 32 miles from Thumb, 51 miles from Upper Basin, 60 miles from Fountain, 80 miles from Norris, 100 miles from Mammoth Hot Springs, 105 miles from Gardiner; altitude 7,850 feet. Camp sites are opposite the soldier station and across Chittenden Bridge. The road to the right leads to Lower Falls, to the northern side of the Grand Canyon, the Canyon Hotel, and Mount Washburn. There is good fishing in Yellowstone River and Cascade Creek.

GRAND CANYON.

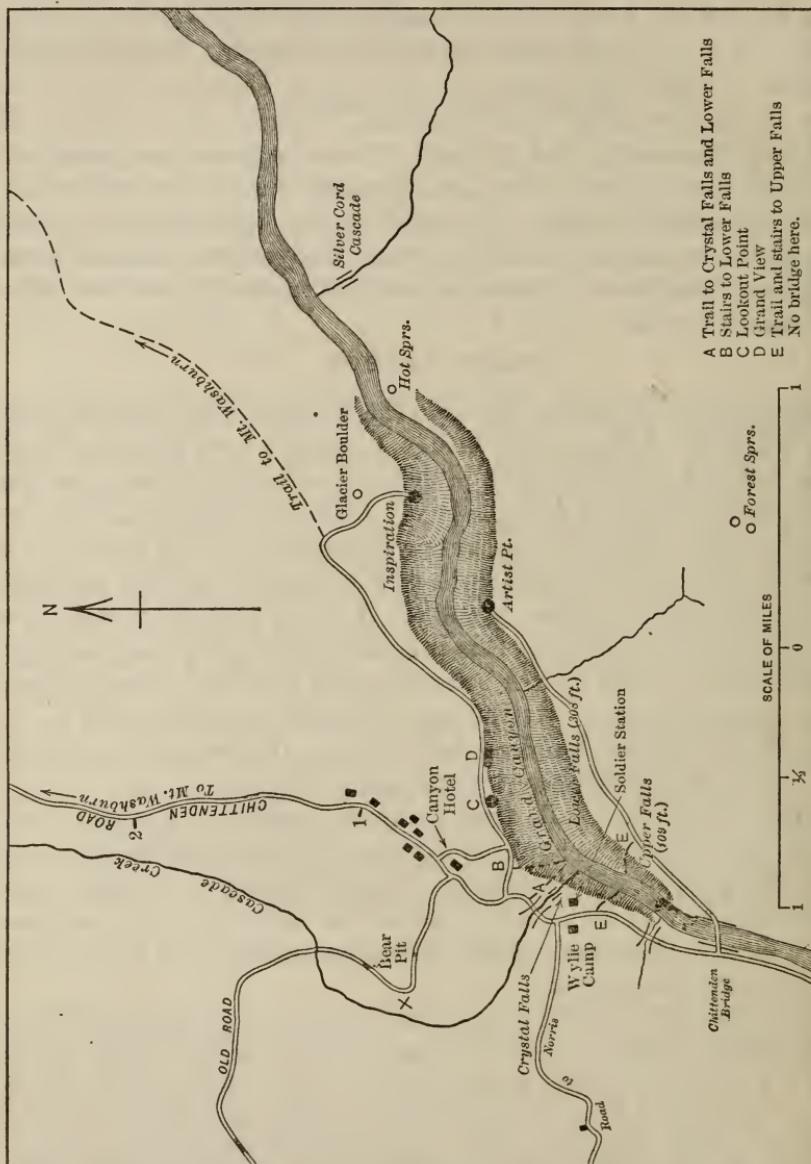
If the canyon is to be viewed from the northern rim, the road to the right is taken. A high, steel bridge is crossed over Cascade Creek. At the east end of the bridge a path leads to the right down the edge of the gulch to *Crystal Falls*, a lovely little falls, that is often overlooked in the presence of the larger attractions. This path can be followed to top of the Lower Falls of the Yellowstone, 308 feet high, if the tourist wants a little scramble. Another path from the end of the bridge leads to the left; this is a short cut to the Canyon Hotel. The main road winds up the hill, affording here and there glimpses of the Grand Canyon. At the top of the hill are the stairs to the *Lower Falls*. A few hundred feet farther, the branch road to the hotel and to Mount Washburn turns out to the left.

On the road about 1 mile from Canyon Junction is *Lookout Point*, reached by walking a hundred feet out to the right of the road. Down the gulch to the right of Lookout Point is a rather steep trail leading to *Red Rock*, a fine point from which to view the Lower Falls: *Grand View* and *Castle Ruins* are other good points from which to view the canyon.

But better yet is *Inspiration Point*, at the end of this road. This point, Artists Point, Lookout Point, and the edge of the Lower Falls are the best places from which to view the wonders of the canyon. The view from each is different from the others, and each merits a careful inspection from the tourist. This canyon is some 20 miles in length, but it is only the first 3 miles below the Lower Falls that carry these wonderful colors. This is due to the fact that in times gone by fumes rising from hot springs deep in the ground have risen through the rhyolite rock of this 3-mile section until the rock has been decomposed and changed. The remainder of the

canyon has not been acted on by the hot-spring fumes and hence retains its dark gray walls.

A short distance from Inspiration Point, on the east side of and close to the road, is the *Glacier Boulder*, not by any means the only



SKETCH MAP OF GRAND CANYON.

glacier boulder in the park, but the most striking example of this force. This boulder must have been brought a distance of at least 20 miles by the ancient glacier that carried it and dropped it here for the wonder of the tourist.

GRAND CANYON TO GARDINER VIA NORRIS.

On the road from Canyon Junction to Norris there is a steep hill for the first mile and then the road winds through timber-covered rolling country to *Virginia Meadows*, altitude 7,765 feet, 7 miles from Canyon Junction, where there is a camp site and the fishing is good. This is the only camping ground between Canyon Junction and Norris. At the lower end of the meadow Gibbon River is crossed and the road continues down its north bank past the Virginia Cascades to Norris Geyser Basin, 11 miles from Canyon Junction.

NORRIS TO GARDINER.

The tourist returns over the road described on pages 24 to 26 and 19 to 20.

GRAND CANYON TO MAMMOTH HOT SPRINGS VIA MOUNT WASHBURN AND TOWER FALLS.

In honor of Gen. Hiram M. Chittenden, the engineer officer to whom the excellence of the present park roads is largely due, the road from Canyon Junction to the top of Mount Washburn is known as the "Chittenden Road." It is usually not free from snow until after July 1. It leads up past the hotel and the hotel barns. Camping places are scattered all along this road, the best being *Dunraven Pass*, 7 miles from Canyon Junction, at an altitude of 8,800 feet. These are not very good, owing to lack of water, the first water to be counted on being at Tower Creek, 17 miles from Canyon Junction by Dunraven Pass Road and 20 miles by road over Mount Washburn.

At *Dunraven Pass* the road forks; the road to the left is the direct road to Tower Falls, shorter and avoiding the heavy grades of Mount Washburn, that to the right leading to the top of *Mount Washburn* (wagons can be driven to the extreme top and down the northern side). It is well to get up Mount Washburn as early in the day as possible, on account of the heavy winds that spring up later. The climb is long, but the views constantly unfurling as the tourist rises are unrivaled, and the time taken in the slow climb is put to good advantage by the sight-seer. The view from the top of Mount Washburn, altitude 10,000 feet, is equaled only by that from Electric Peak and Mount Sheridan, both of which are as yet too inaccessible to be climbed readily.

Beyond Mount Washburn the road enters an open country free from heavy timber, and so affords numberless opportunities to view the surrounding region. The grade is a steadily descending one to Tower Creek, altitude 6,400 feet. A footpath bears to the right just before reaching the steel bridge across Tower Creek and leads to *Tower Falls*, 132 feet high. The base of the falls can be reached

by going down to the Yellowstone River and then up Tower Creek. The two columnar walls in the sides of the canyon across the Yellowstone should be noted. Fishing in the river at this point is good.

The next camp site is near the soldier station, 2 miles farther on. The road after leaving Tower Creek passes first the towers, or minarets, that give this section its name; then passes close to a wonderful cliff of columnar basalt that overhangs the road. This is the famous *Overhanging Cliff*. Shortly after the *Needle* is reached. This is a long, slender spire that starts at the river's edge and mounts up nearly 300 feet.

Shortly after, the bottom of the long descent from Mount Washburn is reached, 2 miles from Tower Falls. Here a branch road leads to the left to "Camp Roosevelt," and one to the right to the main buffalo corral, 12 miles, and to *Soda Butte*, 17 miles. There is a very pretty walk back of Camp Roosevelt up through *Lost Creek Canyon* and past *Lost Creek Falls*. Next is the soldier station. The next camp site is 1 mile farther, where a road bears off to the left to the *Petrified Trees*, one-half mile from the main road. The next good camp site is at Blacktail Deer Creek, 10 miles farther.

After leaving Petrified Trees Junction the road climbs a hill 3 miles long, then traverses *Crescent Gulch* to the *Blacktail Deer Divide*, from which point there is a long, steady descent to Gardiner River, within 2 miles of Mammoth Hot Springs.

At *Blacktail Deer Creek* is a good camp site and there is good fishing for native and rainbow trout. A trail to the right, just beyond the bridge, leads to Yellowstone River, 3 miles away, where there is more good fishing.

A mile and a half beyond this creek the road crosses *Lava Creek*, and a few hundred yards below is Undine Falls (60 feet), remarkable for the development of basalt in the walls of its canyon (East Gardiner or Lava Creek Canyon). It is 5 miles from Mammoth Hot Springs, and there is a good camp site. Good fishing for native and eastern brook trout.

At *Gardiner River*, 18 miles from Tower Falls, the road crosses on the highest and longest steel bridge in the park, 2 miles from Mammoth Hot Springs.

YELLOWSTONE, MONT. (WESTERN ENTRANCE), TO THE "LOOP" ROAD.

Yellowstone, Mont., is the terminus of Oregon Short Line Railway, and is the western entrance to the park. Guides, outfits, and supplies for park trips can be secured. This is the post office for tourists entering and leaving via the western entrance.

The road lies up *Madison River* to the junction of *Gibbon* and *Firehole Rivers* (13 miles), where one road leads to the right up

Firehole River toward Fountain and the other road leads to the left up Gibbon River toward Norris. At Yellowstone the road lies through a level country, and as the river is ascended low hills appear on either side. They increase in height as the river is ascended until they culminate in *Mount Burley* on the right and *Purple Mountain* on the left. Camp sites occur 3 miles, $7\frac{1}{2}$ miles, 12 miles, and 13 miles from Yellowstone. There is fine fishing at all points for grayling, whitefish, native, eastern brook, Loch Leven, Von Behr, and rainbow trout.

On the right fork the loop road is reached at Firehole Cascades, 16 miles from Yellowstone and $5\frac{1}{2}$ miles from Fountain. Going up the left fork the loop road is reached near Wylie's Camp, 17 miles from Yellowstone, 10 miles from Norris.

CODY, WYO., VIA EASTERN ENTRANCE TO "LOOP" ROAD.

Cody, Wyo., is the terminus of a branch line of the Chicago, Burlington & Quincy Railroad. It is located 63 miles from the eastern entrance of the park. Guides, outfits, and supplies may be secured here. From Cody, Wyo., to the park boundary automobiles may be driven, but no motor cars are allowed within the park limits. Camping parties from Cody would do well to carry with them feed and forage enough for the first 40 miles, as most of the available space is occupied by farms and ranches. After this point is gained there are frequent camp sites to the park boundary. This road leads over a high and snowy pass and is seldom open before July 1. Road lies up the *Shoshone River* through the picturesque valley and canyon of the Shoshone and then up *Middle Creek* to *Sylvan Pass*.

At the eastern entrance is located a soldier station and 1 mile farther is a good camping site. On both Shoshone River and Middle Creek there is good fishing for native trout. The next camp site is at *Sylvan Lake*, 9 miles farther. At *Sylvan Pass*, altitude 8,650 feet, 8 miles from eastern boundary, the road leaves Middle Creek and passes between high frowning cliffs on either side.

Two beautiful small lakes are passed, the first being *Lake Eleanor* and the second *Sylvan Lake*, a dainty little sheet of water, set in the midst of heavy timber, surrounded by high and rugged peaks. *Sylvan Lake* is 9 miles from the eastern boundary and its altitude is 8,350 feet. At this point is a camp site; the next one is at *Cub Creek*, 4 miles farther. There is another camp site 4 miles beyond *Cub Creek*.

Turbid Lake, altitude 7,900 feet, 20 miles from the eastern boundary, has a camp site at its southern end. This lake is remarkable for the innumerable hot springs and steam openings in its bottom

and along its shores. These springs keep the water more or less agitated and muddy, but there is good water for camp purposes in *Bear Creek*, flowing into Turbid Lake from the southeast. The next camp site is at *Indian Pond*, near the north shore of the Yellowstone Lake, 3 miles farther and 5 miles from Lake Hotel. The junction point of this road and the Loop Road is nearly 2 miles north of the Lake Hotel and 26 miles from the eastern boundary of the park.

MORAN, WYO., VIA SOUTHERN ENTRANCE TO LOOP ROAD.

Moran, Wyo., is located on Jackson Lake, 25 miles south of the southern boundary of Yellowstone Park. From Moran to the southern boundary the road lies to the east of *Jackson Lake* and *Snake River*. There are numerous camp sites along this section of the road.

At the southern station, altitude 6,850 feet, is the soldier station. A good camp site is near and there is good fishing for whitefish, native, *Loch Leven*, and lake trout in Lewis and Snake Rivers. Next camp site is 8 miles farther on.

Moose Falls is on *Crawfish Creek*, 1 mile north of southern boundary and 100 yards east of road. The road leads over the hills west of and parallel with the *Lewis River* to *Lewis Falls* (upper, 80 feet high; lower, 50 feet high), altitude 7,650 feet, 9 miles from south boundary. While climbing the hill through the burned section the tourist should look back at the Teton Mountains to the south. A good camp site is just north of Lewis Falls, on *Astor Creek*, up which the road turns. The next camp site is at the north end of *Lewis Lake*, 4 miles farther on.

Lewis Lake, altitude 7,720 feet, is a heart-shaped lake, 3 miles north and south by 2 miles wide, lying to the west of *Mount Sheridan*. It has an extensive hot springs basin on its northwestern shore. *Lewis River*, which rises in *Shoshone Lake* farther north, flows through this lake on its way to *Snake River*. There is good fishing in *Lewis Lake* and its inlet for lake trout. The next camp sites after leaving *Lewis Lake* are 2 miles north and 7 miles north.

From *Lewis Lake* the road climbs gradually up the *Continental Divide*, altitude 8,000 feet, and then drops down to *Yellowstone Lake*, a mile and a half south of the Thumb, 23 miles from the southern boundary of the park.

TOWER FALLS TO BUFFALO FARM, SODA BUTTE, AND COOKE, MONT.

Two hundred yards east of Tower Falls Soldier Station, 18 miles from Mammoth Hot Springs, the only wagon road to the mining

town of Cooke, Mont., branches off from the Mount Washburn road northeast across the flat. Good camp sites are frequent and there is good fishing for native trout to Soda Butte. The Yellowstone River is crossed on the longest single-span steel bridge in the park. Junction Butte is on the right. The road runs across open, grassy flats, strewn with granite bowlders dropped by the glacier, to the bridge across Lamar River, 23 miles from Mammoth Hot Springs. Two miles beyond the bridge the Lamar Canyon is entered. Here the smooth, round, glacier bowlders lie piled in immense masses.

Leaving the canyon the road passes up the north side of the upper Lamar Valley, past the Buffalo Farm (30 miles from Mammoth Hot Springs), where 193 head of buffalo (bison) are maintained by the Government. Five miles beyond the road leaves the Lamar Valley and turns northeast up the Soda Butte Valley. As one ascends this valley, he is treated to some of the finest mountain scenery in the park. Soda Butte, an old hot spring or geyser cone so named by the old trappers, lies alongside the road on the right, 36 miles from Mammoth Hot Springs, with the soldier station on the left. Good camp sites continue frequently for 5 miles beyond the Butte, the next good camp site being 10 miles beyond the Butte. The northeast boundary is crossed (53 miles from Mammoth Hot Springs) in the midst of a heavy forest, 3 miles before reaching Cooke. From Soda Butte the road follows up Soda Butte Creek through the heart of magnificent mountain scenery.

PROMINENT GEYSERS AND SPRINGS.

The most important geysers and springs are listed below.

Prominent geysers and springs.

[Based upon observations, season 1913.]

NORRIS BASIN.

Name.	Height of eruption. <i>Fect.</i>	Duration of eruption.	Interval between eruptions.	Remarks.
Black Growler.....				Steam vent only.
Constant.....	15-35	5 to 15 seconds.....	20 to 55 seconds.....	Large boiling spring.
Congress Pool.....				
Echinus.....	30	3 minutes.....	45 to 50 minutes.....	
Emerald Pool.....				Beautiful hot spring.
Hurricane.....	6-8			Continuous.
Minute Man.....	8-15	15 to 30 seconds.....	1 to 3 minutes.....	Sometimes quiet for long periods.
Monarch.....	100-125	6 minutes.....	Irregular.....	
New Crater.....	6-25	1 to 4 minutes.....	2 to 5 minutes.....	
Valentine.....	60	15 to 60 minutes.....	Irregular.....	

Prominent geysers and springs—Continued.

LOWER BASIN.

Name.	Height of eruption. Feet.	Duration of eruption.	Interval between eruptions.	Remarks.
Black Warrior.....		Continuous.....		
White Dome.....	10	1 minute.....	40 to 60 minutes.....	
Clepsydra.....	10-40	Few seconds.....	3 minutes.....	
Fountain Geyser.....				Seldom in eruption.
Firehole Lake.....				Peculiar phenomena.
Great Fountain.....	75-150	45 to 60 minutes.....	8 to 11 hours.....	Spouts 4 or 5 times.
Mammoth Paint Pots.....				Basin of boiling clay.
Excelsior.....	200-300	About $\frac{1}{2}$ hour.....		Ceased playing in 1888.
Prismatic Lake.....				Size about 250 by 400 feet; remarkable coloring.
Turquoise Spring.....				About 100 feet in diameter.

UPPER BASIN.

Artemisia.....	50	10 to 15 minutes.....	24 to 30 hours.....	Varies.
Atomizer.....	2			
Bee Hive.....	200	6 to 8 minutes.....	3 to 5 times at 12-hour intervals following Giantess.	
Cascade.....	30	3 minutes.....	1 hour.....	Quiet 1898 to fall of 1914.
Castle.....	50-75	30 minutes.....	24 to 26 hours.....	Quiet 4 to 7 days, then plays 3 or 4 times at intervals stated.
Cub, large.....	60	8 minutes.....	With Lioness.....	Short chimneys to Lion and Lioness.
Cub, small.....	10-30	15 to 20 minutes.....	2 hours.....	
Daisy.....	70	3 minutes.....	About 60 minutes.....	
Economic.....	20	Few seconds.....		
Fan.....	15-25	10 minutes.....	Irregular.....	
Giant.....	200-250	60 minutes.....	6 to 14 days.....	
Giantess.....	150-200	12 to 36 hours.....	Irregular 5 to 40 days.....	
Grand.....	200	40 to 60 minutes.....	Irregular 1 to 4 days.....	
Grotto.....	20-30	Varies.....	2 to 5 hours.....	
Jewel.....	5-20	About 1 minute.....	5 minutes.....	
Lion.....	50-60	About 2 to 4 minutes.....	Irregular.....	Seldom in eruption.
Lioness.....	80-100	About 10 minutes.....	do.....	
Mortar.....	30	4 to 6 minutes.....	do.....	
Oblong.....	20-40	Several minutes.....	8 to 12 hours.....	
Old faithful.....	120-170	4 minutes.....	60 to 85 minutes.....	
Riverside.....	80-100	15 minutes.....	About 7 hours.....	Usually 2 to 7 times a day.
Sawmill.....	20-35	1 to 2 hours.....	Irregular.....	Played once in 1910, once in 1912, and once early in 1914.
Spasmodic.....	4	2 minutes.....	2 to 3 hours.....	
Splendid.....	200	10 minutes.....		Usual interval 70 minutes.
Turban.....	20-40	20 minutes.....	Irregular.....	Very irregular.
				Usually once or twice a day.
				Not played since 1892.
				Plays intermittently for 24 hours, following Grand.

Notable springs:

Black Sand Spring (about 55 by 60 feet).
 Chinaman.
 Emerald Pool.

Notable springs—Continued.

Morning Glory.
 Punch Bowl.
 Sponge.
 Sunset Lake.

NOTES ON FISH IN YELLOWSTONE PARK.

Blackspotted or cut-throat trout (Salmo Mykiss).—Native to many park waters. Without doubt reached Upper Yellowstone and Yellowstone Lake from Pacific slope through Two-Ocean Pass during high water in spring.

Whitefish (*Coregonus clupeiformis*).—Native to Yellowstone River below falls, and Gardiner, Madison, and Gallatin Rivers. Planted in Yellowstone River above the falls.

Grayling (*Thymallus Ontariensis Montanus*).—Native to Madison and Gallatin Rivers and branches.

Eastern brook trout (*Salvelinus fontanalis*).—Planted.

Loch Leven trout (*Salmo Trutti levensis*).—Planted.

Von Behr (German brown) trout (*Salmo Fario*).—Planted.

Rainbow trout (*Salmo Irideus*).—Planted.

Lake trout (*Cristivomer Namaycush*).—Planted.

Land-locked salmon and black bass have been planted in the park, but apparently did not thrive, as they have never been heard from since they were planted.

WILD ANIMALS.

Wild elk, deer, and antelope are numerous in the park; and moose, bison, mountain sheep, black, brown, and grizzly bears, wolves, coyotes, mountain lions, and the smaller fur-bearing animals are found.

Bears are seen daily in summer at garbage dumps near all hotels and camps, but most of the other wild animals live high up in the mountains or in remote parts of the park during the summer, and tourists who see any of them may consider themselves fortunate.

In winter, elk, mule deer, and white-tailed deer, antelope, and mountain sheep may be viewed at close quarters along the northern line of the park, and a lover of wild animals would be well repaid for taking a trip to Gardiner and Fort Yellowstone to see them.

BIRDS.

Many varieties of song birds are found in the park in summer, though they can hardly be said to be numerous. Ducks, geese, and other waterfowl are quite numerous and tame, and many of them are seen in winter as well as in summer in streams that are fed by hot springs and consequently never freeze.

Species marked with an asterisk (*) have been previously recorded from Yellowstone Park.

ORDER PYGOPODES. DIVING BIRDS.

Family COLYMBIDAE. Grebes.

Western Grebe. *Aechmophorus occidentalis*. Uncommon migrant.

*Horned Grebe. *Colymbus auritus*. Rare migrant.

*Eared Grebe. *Colymbus nigricollis californicus*. Common summer resident.

*Pied-billed Grebe. *Podilymbus podiceps*. Migrant; not common.

Family GAVIIDAE. Loons.

Loon. *Gavia immer*. Rare migrant.

ORDER LONGIPENNES. LONG-WINGED SWIMMERS.

Family LARIDAE. Gulls and Terns.

*Ring-billed Gull. *Larus delawarensis*. Summer resident; common.

Bonaparte Gull. *Larus philadelphia*. Rare migrant.

*Black Tern. *Hydrochelidon nigra surinamensis*. Rare migrant.

ORDER STEGANOPODES. TOTIPALMATE SWIMMERS.

Family PELECANIDAE. Pelicans.

*White Pelican. *Pelecanus erythrorhynchos*. Abundant summer resident.

ORDER ANSERES. LAMELLIROSTRAL SWIMMERS.

Family ANATIDAE. Ducks, Geese, and Swans.

*American Merganser. *Mergus americanus*. Common summer resident.
Red-breasted Merganser. *Mergus serrator*. Occasional migrant.

*Mallard. *Anas platyrhynchos*. Abundant resident.

Gadwall. *Chaulilasmus streperus*. Common summer resident.

Baldpate. *Mareca americana*. Rare migrant.

Green-winged Teal. *Nettion carolinense*. Common summer resident.

*Blue-winged Teal. *Querquedula discors*. Abundant summer resident.

Cinnamon Teal. *Querquedula cyanoptera*. Occasional summer resident.

Shoveller. *Spatula clypeata*. Common summer resident.

*Pintail. *Dafila acuta*. Rare migrant.

*Wood Duck. *Aix sponsa*. Rare summer resident.

Redhead. *Marila americana*. Common migrant.

Canvas-back. *Marila valisineria*. Not common migrant.

Lesser Scaup Duck. *Marila affinis*. Common summer resident.

American Golden-eye. *Clangula clangula americana*. Abundant migrant.

Barrow Golden-eye. *Clangula islandica*. Resident.

*Bufflehead. *Charitonetta albola*. Common migrant.

Harlequin Duck. *Histrionicus histrionicus*. Rare migrant.

*White-winged Scoter. *Oidemia deglandi*. Rare migrant.

Ruddy Duck. *Erismatura jamaicensis*. Common summer resident.

*Lesser Snow Goose. *Chen hyperborea hyperborea*. Occasional migrant.

*Canada Goose. *Branta canadensis canadensis*. Abundant resident.

*Whistling Swan. *Olor columbianus*. Common migrant.

*Whooping Swan. *Olor buccinator*. Rare migrant.

ORDER HERODIONES. HERONS, STORKS, IBISES, ETC.

Family ARDEIDAE. Herons, Bitterns, etc.

*Great Blue Heron. *Ardea herodias herodias*. Tolerably common summer resident.

Black-crowned Night Heron. *Nycticorax nycticorax naevius*. Rare migrant.

ORDER PALUDICOLAE. CRANES, RAILS, ETC.

Family GRUIDAE. Cranes.

*Sandhill Crane. *Grus mexicana*. Rare migrant.

Family RALLIDAE. Rails, Gallinules, and Coots.

Coot. *Fulica americana*. Abundant summer resident.

ORDER LIMICOLAE. SHORE BIRDS.

Family PHALAROPODIDAE. Phalaropes.

Northern Phalarope. *Lobipes lobatus*. Rare fall migrant.

Wilson Phalarope. *Steganopus tricolor*. Common summer resident.

Family RECURVIROSTRIDAE. Avocets and Stilts.

*American Avocet. *Recurvirostra americana*. Rare migrant.

Family SCOLOPACIDAE. Snipes, Sandpipers, etc.

*Wilson Snipe. *Gallinago delicata*. Occasional summer resident.

*Baird Sandpiper. *Pisobia bairdii*. Tolerably common migrant.

Least Sandpiper. *Pisobia minutilla*. Occasional fall migrant.

*Greater Yellow-legs. *Totanus melanoleucus*. Rare migrant.

*Yellow-legs. *Totanus flavipes*. Migrant; not common.

*Western Solitary Sandpiper. *Helodromas solitarius cinnamomeus*. Rare migrant.

*Western Willet. *Catoptrophorus semipalmatus inornatus*. Rare migrant.

*Spotted Sandpiper. *Actitis macularia*. Abundant summer resident.

Family CHARADRIIDAE. Plovers.

*Killdeer. *Oxyechus vociferus*. Abundant summer resident.

ORDER GALLINAE. GALLINACEOUS BIRDS.

Family TETRAONIDAE. Grouse, etc.

*Richardson Grouse. *Dendragapus obscurus richardsoni*. Common resident.

*Gray Ruffed Grouse. *Bonasa umbellus umbelloides*. Common resident.

Columbian Sharp-tailed Grouse. *Pediocetes phasianellus columbianus*. Rare resident.

ORDER COLUMBAE. PIGEONS.

Family COLUMBIDAE. Pigeons.

*Western Mourning Dove. *Zenaidura macroura marginella*. Common summer resident.

ORDER RAPTORES. BIRDS OF PREY.

Family BUTEONIDAE. Hawks, Eagles, Kites, etc.

*Marsh Hawk. *Circus hudsonius*. Abundant summer resident.

*Sharp-shinned Hawk. *Accipiter velox*. Common summer resident.

Cooper Hawk. *Accipiter cooperii*. Occasional summer resident.

- Western Goshawk. *Astur atricapillus striatulus*. Occasional visitor.
- *Western Red-tail. *Buteo borealis calurus*. Common summer resident.
- *Swainson Hawk. *Buteo swainsoni*. Common summer resident.
- *Rough-legged Hawk. *Archibuteo lagopus sanctijohannis*. Rare migrant.
- *Golden Eagle. *Aquila chrysaetos*. Rare resident.
- *Bald Eagle. *Haliaeetus leucocephalus*. Occasional summer resident.

Family FALCONDIDAE. Falcons, etc.

- *Duck Hawk. *Falco peregrinus anatum*. Rare summer resident.
- *Pigeon Hawk. *Falco columbarius columbarius*. Rare migrant.
- *Desert Sparrow Hawk. *Falco sparverius phalaena*. Abundant summer resident.

Family PANDIONIDAE. Ospreys.

- *Osprey. *Pandion haliaetus carolinensis*. Common summer resident.

Family STRIGIDAE. Horned Owls, etc.

- *Long-eared Owl. *Asio wilsonianus*. Rare resident.
- Short-eared Owl. *Asio flammeus*. Not common migrant.
- Rocky Mountain Screech Owl. *Otus asio maxwelliae*. Rare resident.
- *Western Horned Owl. *Bubo virginianus pallescens*. Common resident.
- *American Hawk Owl. *Surnia ulula caparoch*. Occasional.

ORDER COCCYGES. CUCKOOS, ETC.

Family ALCEDINIDAE. Kingfishers.

- *Belted Kingfisher. *Ceryle alcyon alcyon*. Common summer resident.

ORDER PICI. WOODPECKERS, ETC.

Family PICIDAE. Woodpeckers.

- *Rocky Mountain Hairy Woodpecker. *Dryobates villosus monticola*. Common resident.
- *Batchelder Woodpecker. *Dryobates pubescens homorus*. Resident; not common.
- *Arctic Three-toed Woodpecker. *Picoides arcticus*. Rare resident.
- *Alpine Three-toed Woodpecker. *Picoides americanus dorsalis*. Rare resident.
- Red-naped Sapsucker. *Sphyrapicus varius nuchalis*. Common summer resident.
- *Williamson Sapsucker. *Sphyrapicus thyroideus*. Common summer resident.
- *Red-headed Woodpecker. *Melanerpes erythrocephalus*. Uncommon summer resident.
- *Lewis Woodpecker. *Asyndesmus lewisi*. Common summer resident.
- *Red-shafted Flicker. *Colaptes cafer collaris*. Abundant summer resident.

ORDER MACROCHIRES. GOATSUCKERS, SWIFTS, ETC.

Family GAPRIMULGIDAE. Goatsuckers.

- *Pacific Nighthawk. *Chordeiles virginianus hesperis*. Common summer resident.

Family MICROPODIDAE. Swifts.

*White-throated Swift. *Acronautes melanoleucus*. Occasional summer resident.

Family TROCHILIDAE. Hummingbirds.

*Calliope Hummingbird. *Stellula calliope*. Occasional summer resident.

ORDER PASSERES. PERCHING BIRDS.

Family TYRANNIDAE. Tyrant flycatchers.

*Kingbird. *Tyrannus tyrannus*. Occasional summer resident.

*Arkansas Kingbird. *Tyrannus verticalis*. Occasional summer resident.

Say Phoebe. *Sayornis sayus*. Occasional summer resident.

*Olive-sided Flycatcher. *Nuttallornis borealis*. Common summer resident.

*Western Wood Pewee. *Myiochancs richardsonii richardsonii*. Occasional summer resident.

Western Flycatcher. *Empidonax difficilis difficilis*. Common summer resident.

*Traill Flycatcher. *Empidonax traillii trailli*. Tolerably common summer resident.

Hammond Flycatcher. *Empidonax hammondi*. Rare summer resident.

Wright Flycatcher. *Empidonax wrightii*. Abundant summer resident.

Family ALAUDIDAE. Larks.

*Desert Horned Lark. *Otocoris alpestris leucolacma*. Common summer resident.

Family CORVIDAE. Crows, Jays, Magpies, etc.

*Magpie. *Pica pica hudsonia*. Common resident.

*Black-headed Jay. *Cyanocitta stelleri annectens*. Common resident.

*Rocky Mountain Jay. *Perisoreus canadensis capitalis*. Common resident.

*American Raven. *Corvus corax sinuatus*. Abundant resident.

*Western Crow. *Corvus brachyrhynchos hesperis*. Not common summer resident.

*Clark Nutcracker. *Nucifraga columbiana*. Abundant resident.

Family ICTERIDAE. Blackbirds, Orioles, etc.

*Cowbird. *Molothrus ater ater*. Rare summer resident.

Yellow-headed Blackbird. *Xanthocephalus xanthocephalus*. Occasional summer resident.

Thick-billed Red-wing. *Agelaius phoeniceus fortis*. Occasional summer resident.

*Western Meadowlark. *Sturnella neglecta*. Abundant summer resident.

*Bullock Oriole. *Icterus bullocki*. Summer resident; not common.

*Brewer Blackbird. *Euphagus cyanocephalus*. Abundant summer resident.

Family FRINGILLIDAE. Finches, Sparrows, etc.

*Cassin Purple Finch. *Carpodacus cassini*. Common summer resident.

*Crossbill. *Loxia curvirostra minor*. Tolerably common resident.

White-winged Crossbill. *Loxia leucoptera*. Rare migrant.

*Pale Goldfinch. *Astragalinus tristis pallidus*. Rare summer resident.

- *Pine Siskin. *Spinus pinus pinus*. Abundant summer resident.
- *Western Vesper Sparrow. *Pooecetes gramineus confinis*. Abundant summer resident.
- Nevada Savannah Sparrow. *Passerculus sandwichensis nevadensis*. Common summer resident.
- *Western Lark Sparrow. *Chondestes grammacus strigatus*. Rare summer resident.
- *White-crowned Sparrow. *Zonotrichia leucophrys leucophrys*. Abundant summer resident.
- *Gambel Sparrow. *Zonotrichia leucophrys gambelii*. Common migrant.
- White-throated Sparrow. *Zonotrichia albicollis*. Rare migrant.
- Western Tree Sparrow. *Spizella monticola ochracea*. Common winter visitant.
- *Western Chipping Sparrow. *Spizella passerina arizonae*. Common summer resident.
- *Shufeldt Junco. *Junco hyemalis connectens*. Common migrant.
- Montana Junco. *Junco hyemalis montanus*. Migrant.
- *Pink-sided Junco. *Junco hyemalis mearnsi*. Abundant summer resident.
- Gray-headed Junco. *Junco phaeonotus caniceps*. Rare summer resident.
- *Mountain Song Sparrow. *Melospiza melodia montana*. Common summer resident.
- *Green-tailed Towhee. *Oreospiza chlorura*. Rare summer resident
- *Black-headed Grosbeak. *Zamelodia melanocephala*. Summer resident; not common.
- *Lazuli Bunting. *Passerina amoena*. Occasional summer resident.

Family TANGARIDAE. Tanagers.

- *Western Tanager. *Piranga ludoviciana*. Common summer resident.

Family HIRUNDINIDAE. Swallows.

- *Cliff Swallow. *Petrochelidon lunifrons lunifrons*. Common summer resident.
- *Barn Swallow. *Hirundo erythrogaster*. Summer resident; not common.
- *Tree Swallow. *Iridoprocne bicolor*. Common summer resident.
- *Northern Violet-green Swallow. *Tachycineta thalassina lepida*. Common summer resident.
- Bank Swallow. *Riparia riparia*. Common summer resident.
- Rough-winged Swallow. *Stelgidopteryx serripennis*. Rare summer resident.

Family LANIIDAE. Shrikes.

- White-rumped Shrike. *Lanius ludovicianus excubitorides*. Occasional summer resident.

Family VIREONIDAE. Vireos.

- *Western Warbling Vireo. *Vireosylva gilva swainsonii*. Common summer resident.

Family MNIOTILTIDAE. Wood warblers.

- *Yellow Warbler. *Dendroica aestiva aestiva*. Occasional summer resident.
- Myrtle Warbler. *Dendroica coronata*. Occasional migrant.
- *Audubon Warbler. *Dendroica auduboni*. Abundant summer resident.
- Townsend Warbler. *Dendroica townsendi*. Occasional migrant.
- *Macgillivray Warbler. *Oporornis tolmiei*. Occasional summer resident.
- *Pileolated Warbler. *Wilsonia pusilla pileolata*. Common summer resident.

Family MOTACILLIDAE. Wagtails and Pipits.

*Pipit. *Anthus rubescens*. Abundant migrant; possibly also a summer resident.

Family CINCLIDAE. Dippers.

*Dipper. *Cinclus mexicanus unicolor*. Abundant resident.

Family MIMIDAE. Thrashers, Mockingbirds, etc.

*Sage Thrasher. *Oreoscoptes montanus*. Common summer resident.

*Catbird. *Dumetella carolinensis*. Rare migrant; possibly summer resident.

Family TROGLODYTIIDAE. Wrens.

*Rock Wren. *Salpinctes obsoletus obsoletus*. Common resident.

*Western House Wren. *Troglodytes aedon parkmani*. Summer resident; locally common.

*Western Marsh Wren. *Telmatodytes palustris plesius*. Occasional.

Family CERTHIIDAE. Creepers.

*Rocky Mountain Creeper. *Certhia familiaris montana*. Occasional summer resident.

Family SITTIDAE. Nuthatches.

*Rocky Mountain Nuthatch. *Sitta carolinensis neisoni*. Rare resident.

*Red-breasted Nuthatch. *Sitta canadensis*. Common summer resident.

Family PARIDAE. Titmice.

*Long-tailed Chickadee. *Penthestes atricapillus septentrionalis*. Rare resident.

*Mountain Chickadee. *Penthestes gambeli gambeli*. Abundant resident.

Family SYLVIIDAE. Kinglets.

*Western Golden-crowned Kinglet. *Regulus satrapa olivaceus*. Occasional summer resident.

*Ruby-crowned Kinglet. *Regulus calendula calendula*. Occasional summer resident.

Family TURDIDAE. Thrushes, Bluebirds, etc.

*Townsend Solitaire. *Myadestes townsendii*. Common resident.

Olive-backed Thrush. *Hylocichla ustulata sicainsoni*. Occasional summer resident.

Audubon Hermit Thrush. *Hylocichla guttata auduboni*. Occasional summer resident.

*Western Robin. *Planesticus migratorius propinquus*. Abundant summer resident.

*Mountain Bluebird. *Sialia currucoides*. Abundant summer resident.

RULES AND REGULATIONS.

REGULATIONS APPROVED MAY 27, 1911.

The following rules and regulations for the government of the Yellowstone National Park are hereby established and made public

pursuant to authority conferred by section 2475, Revised Statutes, United States, and the act of Congress approved May 7, 1894:

1. It is forbidden to remove or injure the sediments or incrustations around the geysers, hot springs, or steam vents; or to deface the same by written inscriptions or otherwise; or to throw any substance into the springs or geyser vents; or to injure or disturb in any manner or to carry off any of the mineral deposits, specimens, natural curiosities, or wonders within the park.

2. It is forbidden to ride or drive upon any of the geyser or hot-spring formations, or to turn stock loose to graze in their vicinity.

3. It is forbidden to cut or injure any growing timber. Camping parties will be allowed to use dead or fallen timber for fuel. When felling timber for fuel, or for building purposes when duly authorized, stumps must not be left higher than 12 inches from the ground.

4. Fires shall be lighted only when necessary, and completely extinguished when not longer required. The utmost care must be exercised at all times to avoid setting fire to the timber and grass.

5. Hunting or killing, wounding, or capturing any bird or wild animal, except dangerous animals when necessary to prevent them from destroying life or inflicting an injury, is prohibited. The outfits, including guns, traps, teams, horses, or means of transportation used by persons engaged in hunting, killing, trapping, ensnaring, or capturing such birds or wild animals, or in possession of game killed in the park under other circumstances than prescribed above, will be forfeited to the United States, except in cases where it is shown by satisfactory evidence that the outfit is not the property of the person or persons violating this regulation, and the actual owner thereof was not a party to such violation. Firearms will only be permitted in the park on written permission from the superintendent thereof. On arrival at the first station of the park, guard parties having firearms, traps, nets, seines, or explosives will turn them over to the sergeant in charge of the station, taking his receipt for them. They will be returned to the owners on leaving the park.

6. Fishing with nets, seines, traps, or by the use of drugs or explosives, or in any other way than with hook and line, is prohibited. Fishing for purposes of merchandise or profit is forbidden. Fishing may be prohibited by order of the superintendent of the park in any of the waters of the park, or limited therein to any specified season of the year, until otherwise ordered by the Secretary of the Interior.

7. No person will be permitted to reside permanently or to engage in any business in the park without permission, in writing, from the Department of the Interior. The superintendent may grant authority to competent persons to act as guides and revoke the same in his discretion, and no pack trains shall be allowed in the park unless in charge of a duly registered guide.

8. The herding or grazing of loose stock or cattle of any kind within the park, as well as the driving of such stock or cattle over the roads of the park, is strictly forbidden, except in such cases where authority therefor is granted by the Secretary of the Interior. It is forbidden to cut hay within the boundaries of the park excepting for the use of the wild game and such other purposes as may be authorized by the Secretary of the Interior or the park superintendent.

9. No drinking saloon or barroom will be permitted within the limits of the park.

10. Private notices or advertisements shall not be posted or displayed within the park, except such as may be necessary for the convenience and guidance of the public, upon buildings on leased ground.

11. Persons who render themselves obnoxious by disorderly conduct or bad behavior, or who violate any of the foregoing rules, will be summarily removed from the park, and will not be allowed to return without permission, in writing, from the Secretary of the Interior or the superintendent of the park.

12. It is forbidden to carve or write names or other things on any of the mileposts or signboards or any of the platforms, seats, railings, steps, or any structures or any tree in the park.

Any person who violates any of the foregoing regulations will be deemed guilty of a misdemeanor, and be subjected to a fine as provided by the act of Congress approved May 7, 1894, "to protect the birds and animals in Yellowstone National Park and to punish crimes in said park, and for other purposes," of not more than \$1,000, or imprisonment not exceeding two years, or both, and be adjudged to pay all costs of the proceedings.

INSTRUCTIONS APPROVED APRIL 15, 1914.

1. The feeding, interference with, or molestation of any bear or other wild animal in the park in any way by any person not authorized by the superintendent is prohibited.

2. *Fires.*—The greatest care must be exercised to insure the complete extinction of all camp fires before they are abandoned. All ashes and unburned bits of wood must, when practicable, be thoroughly soaked with water. Where fires are built in the neighborhood of decayed logs, particular attention must be directed to the extinguishment of fires in the decaying mold. Fire may be extinguished where water is not available by a complete covering of earth, well packed down.

Especial care should be taken that no lighted match, cigar, or cigarette is dropped in any grass, twigs, leaves, or tree mold.

3. *Camps.*—No camp will be made at a less distance than 100 feet from any traveled road. Blankets, clothing, hammocks, or any other

article liable to frighten teams must not be hung at a nearer distance than this to the road. The same rule applies to temporary stops, such as for feeding horses or for taking luncheon.

Many successive parties camp on the same sites during the season, and camp grounds must be thoroughly cleaned before they are abandoned. Tin cans must be flattened and, with bottles, cast-off clothing, and all other débris, must be deposited in a pit provided for the purpose. When camps are made in unusual places, where pits may not be provided, all refuse must be hidden where it will not be offensive to the eye.

4. *Concessionaires*.—All persons, firms, or corporations holding concessions in the park must keep the grounds used by them properly policed and maintain the premises in a sanitary condition to the satisfaction of the superintendent.

5. *Bicycles*.—The greatest care must be exercised by persons using bicycles. On meeting a team the rider must stop and stand at side of road between the bicycle and the team—the outer side of the road if on a grade or curve. In passing a team from the rear the rider should learn from the driver if his horses are liable to frighten, in which case the driver should halt and the rider dismount and walk past, keeping between the bicycle and the team.

6. *Fishing*.—All fish less than 8 inches in length should at once be returned to the water with the least damage possible to the fish. Fish that are to be retained must be at once killed by a blow on the back of the head or by thrusting a knife or other sharp instrument into the head. No person shall catch more than 20 fish in one day.

7. *Dogs*.—Dogs are not permitted in the park.

8. *Grazing animals*.—Only animals actually in use for purposes of transportation through the park may be grazed in the vicinity of the camps. They will not be allowed to run over any of the formations nor near to any of the geysers or hot springs; neither will they be allowed to run loose within 100 feet of the roads.

9. *Formations*.—No person will be allowed on any formations after sunset without a guide.

10. *Hotels*.—All tourists traveling with the authorized transportation companies, whether holding hotel coupons or paying cash, are allowed the privilege of extending their visit in the park at any of the hotels without extra charge for transportation. However, 24 hours' notice must be given to the managers of the transportation companies for reservations in other coaches.

11. *Driving on roads of park*.—(a) Drivers of vehicles of any description, when overtaken by other vehicles traveling at a faster rate of speed, shall, if requested to do so, turn out and give the latter free and unobstructed passageway.

- (b) Vehicles in passing each other must give full half of the roadway. This applies to freight outfits as well as any other.
 - (c) Racing on the park roads is strictly prohibited.
 - (d) Freight, baggage, and heavy camping outfits on sidehill grades throughout the park will take the outer side of the road while being passed by passenger vehicles in either direction.
 - (e) In making a temporary halt on the road for any purpose all teams and vehicles will be pulled to one side of the road far enough to leave a free and unobstructed passageway. No stops on the road for luncheon or for camp purposes will be permitted. A team attached to a vehicle will not be left without the custody of a person competent to control it; a team detached from a vehicle will be securely tied to a tree or other fixed object before being left alone.
 - (f) In rounding sharp curves on the roads, like that in the Golden Gate Canyon, where the view ahead is completely cut off, drivers will slow down to a walk. Traveling at night is prohibited except in cases of emergency.
 - (g) Transportation companies, freight and wood contractors, and all other parties and persons using the park roads will be held liable for violation of these instructions.
 - (h) Pack trains will be required to follow trails whenever practicable. During the tourist season, when traveling on the road and vehicles carrying passengers are met, or such vehicles overtake pack trains, the pack train must move off the road not less than 100 feet and await the passage of the vehicle.
 - (i) During the tourist season pack animals, loose animals, or saddle horses, except those ridden by duly authorized persons on patrol or other public duties, are not permitted on the coach road between Gardiner and Fort Yellowstone.
 - (k) Riding at a gait faster than a slow trot on the plateaus near the hotels where tourists and other persons are accustomed to walk is prohibited.
 - (l) Mounted men on meeting a passenger team on a grade will halt on the outer side until the team passes. When approaching a passenger team from the rear, warning must be given, and no faster gait will be taken than is necessary to make the passage, and if on a grade the passage will be on the outer side. A passenger team must not be passed on a dangerous grade.
 - (m) All wagons used in hauling heavy freight over the park roads must have tires not less than 4 inches in width. This order does not apply to express freight hauled in light spring wagons with single teams.
12. *Liquors.*—All beer, wine, liquors, whisky, etc., brought into the Yellowstone National Park via Gardiner to be carried over the

roads through the reservation to Cooke City, must be in sealed containers or packages, which must not be broken in transit.

13. *Miscellaneous*.—Automobiles are not permitted in the park.¹

Persons are not allowed to bathe near any of the regularly traveled roads in the park without suitable bathing clothes.

14. *Penalty*.—The penalty for disregard of these instructions is summary ejection from the park.

Notices.—(a) Boat trip on Yellowstone Lake: The excursion boat on Yellowstone Lake plying between the Lake Hotel and the Thumb lunch station at the West Bay is not a part of the regular transportation of the park, and an extra charge is made by the boat company for this service.

(b) Side trips in park: Information relative to side trips in the park and the cost thereof can be procured from those authorized to transport passengers through or to provide for camping parties in the park; also at the office of the superintendent.

(c) All complaints by tourists and others as to service, etc., rendered in the reservation should be made to the superintendent in writing.

PANORAMIC VIEW.

The view described below may be purchased from the Superintendent of Documents, Government Printing Office, Washington, D. C.

Panoramic view of Yellowstone National Park; 18 by 21 inches; scale, 3 miles to the inch. Price, 25 cents.²

This view is based on accurate surveys and gives an excellent idea of the configuration of the surface as it would appear to a person flying over it. The meadows and valleys are printed in light green, the streams and lakes in light blue, the cliffs and ridges in brown tints, and the roads in light brown. The lettering is printed in light brown and is easily read on close inspection, but merges into the other colors when the sheet is held at some distance.

MAPS.

Topographic maps of the park and adjacent areas may be purchased from the Director of the Geological Survey, Washington, D. C., at the prices indicated below. Remittances should be by cash or money order.

Map of Yellowstone National Park; size 28 $\frac{1}{2}$ by 32 inches; scale, 2 miles to the inch. Price 40 cents.²

The roads, trails, and names are put in black, the streams and lakes in blue, and the relief is indicated by brown contour lines.

¹ Automobiles will be allowed in the park after Aug. 1, 1915, under appropriate regulations and after payment of a license fee. Regulations will be issued later and may be obtained on application to the Secretary of the Interior and the acting superintendent of the park.

² May be purchased by personal application to the office of the superintendent of the park, but that officer can not fill mail orders.

The areas north, east, and south of the park are mapped on the atlas sheets of the Geological Survey listed below. These maps should be ordered by the names of the atlas sheets. They are printed in the same colors as the large map of the park described above.

Area north of park: Livingston sheet, scale 4 miles to the inch. Price, 10 cents.

Area east of park: Crandall and Ishawooa sheets, scale 2 miles to the inch.

Price, 10 cents each.

Area south of park: Mount Leidy and Grand Teton sheets, scale 2 miles to the inch. Price, 10 cents each.

LITERATURE.

GOVERNMENT PUBLICATIONS.

Government publications on Yellowstone National Park may be obtained as indicated below. Separate communications should be addressed to the officers mentioned.

DISTRIBUTED FREE BY THE SECRETARY OF THE INTERIOR.

The two following publications may be obtained free by written request addressed to the Secretary of the Interior or by personal application to the office of the superintendent of the park:

General information regarding Yellowstone National Park.

This circular is issued each season and contains data regarding hotels, camps, and principal points of interest, lists of books and magazine articles, a sketch map, and the rules and regulations.

Annual report of the superintendent of Yellowstone National Park.

This is the annual administrative report; it does not contain illustrations or descriptive matter.

SOLD BY THE SUPERINTENDENT OF DOCUMENTS.

The following publications may be obtained from the Superintendent of Documents, Government Printing Office, Washington, D. C., at the prices given. Remittances should be by money order or in cash:

Geological History of Yellowstone National Park, by Arnold Hague, 24 pages, including 10 illustrations, 10 cents.¹

This pamphlet contains a general résumé of the geologic forces that have been active in the Yellowstone National Park.

Geyzers, by Walter Harvey Weed, 32 pages, including 23 illustrations, 10 cents.¹

In this pamphlet is a description of the forces which have produced the geyzers, and the geyzers of the Yellowstone are compared with those in Iceland and New Zealand.

Fossil Forests of the Yellowstone National Park, by F. H. Knowlton, 32 pages, including 15 illustrations, 10 cents.¹

This pamphlet contains descriptions of the fossil forests of the Yellowstone National Park and an account of their origin.

¹ May be purchased by personal application to the office of the superintendent of the park, but that officer can not fill mail orders.

BOOKS.

- ALLEN, E. F. A Guide to the National Parks of America, 1915. 286 pages.
- [BARNES, O. P.] Fly fishing in wonderland, by Klahowya [1910], 56 pp., illustrated.
- BARTH, THEODOR. Amerikanisch Eindruck. 1907. 117 pp.
Yellowstone on pp. 62-67.
- BRYCE, JAMES. University and historical addresses. 1913. 433 pp.
National parks—The need of the future on pp. 389-406.
- CAMPBELL, REAU. Complete guide and descriptive book of the Yellowstone Park. 1909. 173 pp., illustrated.
- CHITTENDEN, H. M. The Yellowstone National Park, historical and descriptive. 1895. 397 pp., illustrated.
- CRONAU, RUDOLF. Im wilden Westen. 1890. 383 pp., illustrated.
Yellowstone on pp. 163-185; Yosemite on pp. 259-275.
- DUMBELL, K. E. M. California and the Far West, 1914. 198 pages.
Yellowstone on pp. 83-90; Glacier on pp. 23-26; Crater Lake on pp. 30-41;
Mesa Verde on pp. 78-80; Yosemite on pp. 147-156; Sequoia on pp. 161-162.
- DUNRAVEN, EARL OF. The Great Divide: Travels in the Upper Yellowstone in summer of 1874. 1876. 377 pp., illustrated.
A good description of the park in its early days.
- FINCK, H. T. Pacific coast scenic tour. 1890. 309 pp., illustrated.
Yellowstone on pp. 279-293; Yosemite on pp. 81-107; Crater Lake on pp. 157-158; Mount Rainier on pp. 209-216.
- FOUNTAIN, PAUL. The eleven eaglets of the West. London, 1906. 362 pp.
An account of travels in 11 Western States and Territories. Yellowstone Park is described on pp. 173-195. Contains also descriptions of Yosemite, Mount Rainier, and Crater Lake.
- GUNNISON, ALMON. Rambles overland. 1884. 245 pp.
Yellowstone on pp. 27-82; Yosemite on pp. 125-156.
- HALLAHAN, D. F. Tourists in the Northwest, 1914. 151 pages.
Yellowstone on pp. 42-86; Mount Rainier on pp. 99-100.
- HARRISON, CARTER H. A summer's outing and the old man's story. 1891. 297 pp., illustrated.
Yellowstone on pp. 15-81.
- HAYNES, JACK E. Guide to the Yellowstone National Park. 172 pp., illustrated.
- HERBERTSON, F. D. and A. J. Descriptive geography from original sources: North America. 1901. 252 pp.
Yellowstone on pp. 171-180; Yosemite on pp. 194-196; Crater Lake on pp. 166-167.
- HESSE-WARTEGG, ERNEST VON. Nord-Amerika: Seine Städte und Naturwunder. 3 vols. 1880.
Yellowstone in vol. 2, pp. 228-242; Yosemite in vol. 2, pp. 130-144.
- HIRSCHBERG, JULIUS. Von New York nach San Francisco: Tagebuchblätter. 1888. 276 pp.
Yellowstone on pp. 77-111; Yosemite on pp. 190-201.
- HOLMES, BURTON. Travelogues, vol. 6: The Yellowstone National Park; the Grand Canyon of the Arizona; Moki Land. 1908. 336 pp., illustrated.
Yellowstone on pp. 5-112.
- JOHNSON, CLIFTON. Highways and byways of the Rocky Mountains. 1910. 279 pp., illustrated.
Yellowstone on pp. 215-232.
- KIPLING, RUDYARD. American notes.
Issued in several editions. One chapter contains an account of a trip through the Yellowstone Park in 1889.
- KUNTZEMÜLLER, A. Das Wunderland am Yellowstone. 1908. 40 pp.
- LANGFORD, N. P. Diary of the Washburn expedition to the Yellowstone and Firehole Rivers in the year 1870. [1905.] 122 pp., illustrated.
A good account of one of the early expeditions to the park.

- LECLERCQ, JULES. *La Terre des merveilles: Promenade au parc national de l'Amerique du Nord.* 1886. 384 pp., illustrated.
- MORRIS, MRS. JAMES EDWIN. *A Pacific coast vacation.* 1901. 255 pp., illustrated.
- Yellowstone on pp. 236-255; Yosemite on pp. 191-209.
- MUIR, JOHN. *Our national parks.* 1909. 382 pp., illustrated.
- Yellowstone on pp. 37-75; Yosemite on pp. 76-267; Sequoia and General Grant on pp. 268-330.
- MURPHY, JOHN. *Rambles in northwestern America.* 1879. 359 pp.
Yellowstone on pp. 209-222.
- MURPHY, THOMAS D. *Three wonderlands of the American West.* 1912. 180 pp.
Yellowstone on pp. 1-58; Yosemite on pp. 59-109. Contains color reproductions of Moran's paintings.
- PECK, J. K. *The seven wonders of the new world.* 1885. 320 pp.
Yellowstone on pp. 71-114; Yosemite on pp. 205-244, 284-320.
- PIERREPONT, EDWARD. *Fifth Avenue to Alaska.* 1884. 329 pp.
Yellowstone on pp. 237-311; Yosemite on pp. 58-68.
- PORTER, T. C. *Impressions of America.* 1899. 241 pp. illustrated.
Yellowstone on pp. 24-93; Yosemite on pp. 108-142.
- PRICE, ROSE LAMBERT. *A summer on the Rockies.* 1898. 280 pp.
Yellowstone on pp. 166-217.
- RICHARDSON, JAMES. *Wonders of the Yellowstone.* 1873. 256 pp., illustrated.
- ROBERTS, EDWARD. *Shoshone and other Western wonders.* 1888. 275 pp.
Yellowstone on pp. 202-245.
- RYDBERG, PER AXEL. *Catalogue of the flora of Montana and the Yellowstone National Park. Memoirs of the New York Botanical Garden, vol. 1.* 1900. 492 pp., map.
- SANDERS, H. F. *History of Montana, vol. 1.* 1913. 847 pp.
Yellowstone on pp. 650-684.
- SCHAUFFLER, R. H. *Romantic America.* 1913. 339 pp.
Yellowstone on pp. 134-160; Yosemite on pp. 192-224.
- SENN, NICHOLAS. *Our national recreation parks.* 1904. 147 pp. illustrated.
Yellowstone on pp. 17-92; Yosemite on pp. 93-147. Contains notes on fauna in addition to descriptive matter.
- SESSIONS, FRANCIS C. *From Yellowstone Park to Alaska.* 1890. 186 pp., illustrated.
Yellowstone on pp. 9-39.
- SMITH, F. DUMONT. *Book of a hundred bears.* 1909. 233 pp., illustrated.
- STANLEY, EDWIN J. *Rambles in wonderland or up the Yellowstone and among the geysers and other curiosities of the National Park.* 1878. 179 pp., illustrated.
- STODDARD, JOHN L. *Lectures, vol. 10. Southern California, Grand Canyon of the Colorado River, Yellowstone National Park.* 1911. 304 pp., illustrated.
Yellowstone on pp. 207-304.
- STRAHORN, C. A. *Fifteen thousand miles by stage.* 1911. 693 pp., illustrated.
Early days in Yellowstone, pp. 254-286.
- SYNGE, GEORGINA M. *A ride from through Wonderland.* 1892. 166 pp., illustrated.
- TAYLOR, CHARLES MAUS, JR. *Touring Alaska and the Yellowstone.* (1901.) 388 pp., illustrated.
Yellowstone on pp. 283-388.
- TISSANDIER, ALBERT. *Six mois aux Etats Unis [1886].* 298 pp.
Yellowstone on pp. 170-188; Yosemite on pp. 139-165.
- Tomlinson, EVERETT TITSWORTH. *Four boys in the Yellowstone.* [1906.] 399 pp., illustrated.
- U. S. GEOLOGICAL SURVEY. *Monograph 32, part 2. Descriptive geology, petrography, and paleontology of the Yellowstone National Park.*
- U. S. GEOLOGICAL SURVEY. *Geologic Folio No. 30, containing topographic and geologic maps of the park and a description of the geology.*

- WILEY, WILLIAM H. and SARAH K. The Yosemite, Alaska, and the Yellowstone. [1893] 230 pp., illustrated. Yellowstone on pp. 205-230.
- WINGATE, GEORGE W. Through the Yellowstone Park on horseback. 1886. 250 pp., illustrated. Contains notes on the fauna and flora.

MAGAZINE ARTICLES.

- AMERICAN ARCHITECT, vol. 13 (Mar. 7, 1883), p. 130. The Yellowstone National Park, by C. F. Driscoll.
- AMERICAN CIVIC ASSOCIATION (Washington, D. C.) National Parks, 32 pp. Contains "National Parks, the need of the future," by James Bryce; Address on a Bureau of National Parks, by W. H. Taft; Address on a Bureau of National Parks, by Walter L. Fisher; "Are National Parks worth while?" by J. H. McFarland.
- AMERICAN FORESTRY, vol. 19 (May, 1913), pp. 300-317. Yellowstone Park, by Arnold Hague.
- AMERICAN GEOLOGIST, vol. 20 (September, 1897), pp. 159-167. Some geological cause of the scenery of Yellowstone National Park, by A. R. Crook.
- AMERICAN HOMES AND GARDENS, vol. 2 (June, 1906), pp. 392-395. The animals of Yellowstone Park, by K. L. Smith.
- AMERICAN INSTITUTE OF MINING ENGINEERS, TRANSACTIONS, vol. 16 (1888), pp. 46-49. Engineering relations of the Yellowstone Park, by T. B. Comstock.
- vol. 16 (1888), pp. 783-803. Geological history of the Yellowstone National Park, by Arnold Hague.
- vol. 17 (1889), pp. 449-453. Soaping geysers, by R. W. Raymond.
- AMERICAN JOURNAL OF SCIENCE, 3d s., vol. 3 (February and March, 1872), pp. 105-115, 161-176. The hot springs and geysers of the Yellowstone and Fire-hold Rivers, by F. V. Hayden.
- 3d s., vol. 3 (April, 1872), pp. 294-297. The Yellowstone National Park, by F. V. Hayden.
- 4th s., vol. 1 (June, 1896), pp. 445-456. The age of the igneous rocks of the Yellowstone National Park, by Arnold Hague.
- 4th s., vol. 2 (July, 1896), pp. 51-58. The Tertiary floras of the Yellowstone National Park, by F. H. Knowlton.
- 4th s., vol. 5 (May, 1898), pp. 323-333. Some conditions affecting geyser eruption, by T. A. Jaggar, jr.
- AMERICAN NATURALIST, vol. 7 (May, 1873), pp. 279-290. The geysers of Montana.
- vol. 8 (February and March, 1874), pp. 65-79, 155-167. The Yellowstone National Park, by T. B. Comstock.
- vol. 15 (March, 1881), pp. 203-208. Glacial phenomena in the Yellowstone Park, by W. H. Holmes.
- vol. 19 (November, 1885), pp. 1037-1040. The present condition of the Yellowstone National Park, by E. D. Cope.
- ANNALS OF THE AMERICAN ACADEMY OF POLITICAL AND SOCIAL SCIENCE, vol. 35 (March, 1910), pp. 1-12. The parks and recreation facilities in the United States, by John Nolen.
- vol. 35 (March, 1910), pp. 15-24. Our national parks and reservations, by W. M. Curtis.
- APPLETON'S JOURNAL, vol. 26 (December, 1881), pp. 538-547. The geysers of the Yellowstone, by Archibald Geikie.
- AROUND WORLD, vol. 1 (July-August, 1894), pp. 148-151. The Yellowstone Park, by D. S. Jordan.
- ART JOURNAL, vol. 40 (1888), pp. 193-198, 325-328. The American wonderland, by Edward Roberts.
- ATLANTIC MONTHLY, vol. 81 (January, 1898), pp. 15-28. The wild parks and reservations of the West, by John Muir.
- vol. 81 (April, 1898), pp. 509-522. The Yellowstone National Park, by John Muir.

- BULLETINS DE LA SOCIÉTÉ DE GÉOGRAPHIE DE PARIS, 6th series, vol. 12 (August, 1876), pp. 196-199. Explorations faites sous la direction du Dr. Hayden pendant l'année 1875 dans les Territories de l'Ouest des Etats-Unis.
- BULLETINS DE LA SOCIÉTÉ ROYALE BELGE DE GÉOGRAPHIE, vol. 9 (July-August, 1885), pp. 393-422. Les Geysirs de la terre des merveilles, by J. Leclercq.
- CENTURY, n. s., vol. 44 (August, 1903), pp. 481-491. A place of marvels: Yellowstone Park as it now is, by R. S. Baker.
- CHAMBERS' JOURNAL, 4th s., vol. 11 (May 16, 1874), pp. 315-317. Wonders of the Yellowstone region.
- COUNTRY LIFE, vol. 22 (June 1, 1912), p. 88. Horseback in Yellowstone Park, by E. Sweet.
- (January, 1913), pp. 33-36. Touring in our national parks, by E. A. Mills.
- CURRENT LITERATURE, vol. 28 (June, 1900), p. 264. Geysers all right, by H. M. Chittenden.
- DEUTSCHE RUNDSCHAU FÜR GEOGRAPHIE UND STATISTIK (February, 1879), pp. 240-245, Der Nationalpark der Vereinigten Staaten, by J. Chavanne.
- (July, 1896), pp. 433-438. Die Wunder des Yellowstone-Parkes, by Seigmund Bergmann.
- ECLECTIC MAGAZINE, n. s., vol. 35 (January, 1882), pp. 124-136. The geysers of the Yellowstone, by Archibald Geikie.
- n. s., vol. 35 (May, 1882), pp. 598-604. The Yellowstone geysers, by Francis Francis.
- GARDEN AND FOREST, vol. 7 (Apr. 4, 1894), p. 131. The Yellowstone National Park, by C. S. Sargent.
- GEOGRAPHISCHE ZEITSCHRIFT, vol. 1, pp. 79-89 (1895). Der National-Park am Yellowstone, by Prof. Dr. H. Credner.
- GLOBUS, vol. 21 (1872), pp. 118-120. Die Geyser im neuen Wunderland am oberen Yellowstone.
- vol. 27 (1875), pp. 289-294, 305-309, 321-325, 337-341. Die Geyserregion am oberen Yellowstone.
- vol. 28 (1875), pp. 65-70, 81-86, 97-101. Dr. Hayden's und Langford's Expedition nach den Felsengebirgen.
- HARPER'S MAGAZINE, vol. 74 (May, 1887), 869-890. The three Tetons, by A. W. Rollins.
- vol. 94 (January, 1897), pp. 320-325. [Beauties of the Yellowstone National Park.]
- HARPER'S WEEKLY, vol. 41 (June 5, 1897), pp. 563-567. The national parks and forest reservations, by John Muir.
- vol. 42 (Jan. 29, 1898), pp. 106-107. A winter trip through the Yellowstone National Park, by E. Lindsey.
- HIMMEL UND ERDE, 11 Jahrgang (November und December, 1898), pp. 49-61, 109-121. Das Märchenland des Yellowstone, by P. Schwahn.
- HISTORICAL SOCIETY OF MONTANA, Contributions, vol. 1 (1876), pp. 149-233. The Yellowstone expedition of 1863, from the journal of Captain James Stuart.
- vol. 1 (1876), pp. 268-284. The Yellowstone expedition of 1874, by Addison M. Quincy.
- vol. 4 (1903), pp. 153-174. Journal of a tour through the Yellowstone National Park in August and September, 1877, by A. J. Weikert.
- An account of experiences during the Nez Perce raid.
- vol. 5 (1905), pp. 349-369. Folsom-Cook exploration of the Upper Yellowstone in the year 1869, by D. E. Folsom, with a preface by N. P. Langford.
- vol. 5 (1904), pp. 370-394. Journal of Judge Cornelius Hedges, member of the Washburn expedition of 1870.
- vol. 5 (1904), pp. 395-427. Thirty-seven days of peril, by T. C. Everts.
- INDEPENDENT, vol. 50, pt. 1 (Apr. 28, 1898), p. 562. The flowers of Yellowstone Park, by Katherine Armstrong.

- INDEPENDENT, vol. 50, pt. 2 (Nov. 17 and Dec. 1, 1898), pp. 1406-1408, 1572-1576.
 Geology of the Yellowstone National Park, by R. S. Tarr.
- vol. 52 (May 3, 1900), p. 1047. Grand Canyon of the Yellowstone, by C. L. Thompson.
 Poem.
- vol. 58 (June 29, 1905), pp. 1460-1467. A family trek to the Yellowstone, by Mrs. N. E. Corthell.
 Description of the geological history of the park and of the geological features along the tourist route.
- INDOORS AND OUT, vol. 4 (May, 1907), pp. 73-76. Old Faithful Inn log cabin.
- INTERNATIONAL GEOLOGICAL CONGRESS, Compte Rendu, Fifth Session, 1893, pp. 336-359. The Yellowstone Park, by Arnold Hague.
 Description of a trip by a woman and seven children in a wagon to Yellowstone Park.
- Compte Rendu, Fifth Session, 1893, pp. 360-363. The formation of hot spring deposits, by W. H. Weed.
- JAHRESBERICHT DES FRANKFÜRTER VEREINS FÜR GEOGRAPHIE UND STATISTIK, pp. 57-59 Jahrgang, pp. 9-17. Ueber den Yellowstone National-Park, by A. Andreae.
- JOURNAL OF GEOGRAPHY, vol. 11 (June, 1913), pp. 314-320. Geology of Yellowstone National Park, by N. M. Fenneman.
- JOURNAL OF GEOLOGY, vol. 7 (April-May, 1899), pp. 261-271. The piracy of the Yellowstone, by John Paul Goode.
 An account of the drainage changes in the Upper Yellowstone Valley.
- KANSAS CITY REVIEW OF SCIENCE AND INDUSTRY, vol. 3 (April, 1880), pp. 743-748.
 The attractions of the Yellowstone National Park.
- KOSMOS, 6 JAHRGANG (1909), pp. 121-127. Mit Roosevelt in Yellowstone-Park, by J. Burroughs.
- 7 JAHRGANG (1910), pp. 52-54. Wild in Yellowstone-Park, by Wolfgang von Garvens-Garvensburg.
- LADIES' HOME JOURNAL, vol. 17 (September, 1900), pp. 20-21. Through picturesque America.
- vol. 21 (August, 1904), pp. 5-6. Through the Yellowstone in a coach, by S. M. Dale.
- LA NATURE (2e ser.), vol. 8 (1902), pp. 247-250. Les geysers américains, by M. Boule (reprinted in Le Mouvement Géographique, Bruxelles, 1902), vol. 19, pp. 170-171.
- LEISURE HOUR, vol. 21 (Mar. 2, 1872), pp. 134-138. Marvels of the Yellowstone.
- LESLIE'S WEEKLY, vol. 85 (September, 1897), p. 183. The way we live. Our national zoo, by John Bonner.
- LIPPINCOTT'S MAGAZINE, vol. 25 (June, 1880), pp. 688-704, and vol. 26 (July, 1880), pp. 29-41. Through the Yellowstone Park to Fort Custer, by S. Weir Mitchell.
- vol. 72 (July, 1903), p. 111. Cañon of the Yellowstone, by M. I. McNeal.
 Poem.
- LITERARY DIGEST, vol. 46 (June 7, 1913), p. 1303. Western mountains and national parks.
- LITERARY WEEKLY, vol. 14 (July 28, 1883), pp. 237-238. The Yellowstone Park.
 A review of guidebook by H. T. Winser. Contains general information.
- LITTELL'S LIVING AGE, vol. 153 (Apr. 8, 1882), pp. 31-36. The Yellowstone geyser, by Francis Francis.
- MACMILLAN'S MAGAZINE, vol. 44 (April, 1881), pp. 421-435. The geyser of the Yellowstone, by Archibald Geikie.
- MAGAZINE OF AMERICAN HISTORY, vol. 11 (June, 1884), pp. 497-512. Discovery of the Yellowstone National Park: A chapter of early exploration in the Rocky Mountains, by P. Koch.
- MAGAZINE OF WESTERN HISTORY, vol. 6 (September, 1887), pp. 433-445. The Yellowstone Park, by F. C. Sessions.
- vol. 13 (February, 1891), pp. 448-453. The Yellowstone expedition of 1863, by S. A. Wilson.

- MANCHESTER [ENGLAND] GEOGRAPHICAL SOCIETY JOURNAL, vol. 15 (January to March, 1899), pp. 38-55. The Yellowstone Park, by F. H. Worswick.
- MOODY, vol. 14 (November, 1912), pp. 367-375. Yellowstone Park, bankers' trip through, by F. W. Ellworth.
- MOTOR AGE, vol. 25 (Apr. 9, 1914), pp. 1-10. Uncle Sam.—His Parks, by C. G. Sinsabaugh.
- vol. 25 (Apr. 9, 1914), pp. 10-12. How to get to the national parks, by John P. Dods.
- MUTTER ERDE, vol. 3, 1900, pp. 12-14, 48-52, 70-72, 94-95, 126-129. Ausflug nach den Yellowstone-Park, by Th. Kirchhoff.
- NATION, vol. 45 (Sept. 1, 1887), pp. 166-169. A week in Yellowstone Park, by H. T. Finck.
- vol. 46 (Jan. 5, 1888), pp. 9-10. The Yellowstone Park as a forest reservation, by Arnold Hague.
- vol. 62 (Mar. 12, 1896), p. 219. The Yellowstone National Park [review of H. M. Chittenden's book], by E. Coues.
- vol. 65 (Oct. 7, 1897), pp. 276-277. Yellowstone Park in 1897, by H. T. Finck.
- vol. 71 (Sept. 27, 1900), pp. 248-250. Yellowstone Park as a summer resort, by H. T. Finck.
- NATIONAL GEOGRAPHIC MAGAZINE, vol. 23 (June, 1912), pp. 531-579. Our national parks, by L. F. Schmeckebeier.
- vol. 24 (July, 1913), pp. 808-834. Wild animals that took their own pictures by day and by night, by G. Shiras.
- NATIONAL MAGAZINE, vol. 6 (September, 1897), pp. 541-550. The Yellowstone National Park, by W. D. Van Blarcom.
- vol. 19 (February, 1904), pp. 611-614. Ski-runners of the Yellowstone, by L. R. Freeman.
- NATUR, vol. 21 (1872), pp. 340-342, 345-347, 363-366, 372-375. Die Geyser und das Geyserland am Yellowstonefluss in Nordamerika, von O. Ule.
- vol. 45 (Sept. 6, 1896), pp. 429-432. Der Yellowstone-Park, von Max Fibelkorn.
- NATURE, vol. 5 (Mar. 21, 1872), p. 403. The Yellowstone Park.
- vol. 6, (Sept. 12 and 26, 1872), pp. 397-401, 437-439. A gigantic "pleasure ground"; The Yellowstone National Park of the United States.
- NEUES JAHRBUCH FÜR MINERALOGIE (1893), vol. 2, pp. 1-25. Ueber die künstliche Nachahmung des Geyserphänomens, by A. Andreae.
- NINETEENTH CENTURY, vol. 11 (March, 1882), pp. 369-377. The Yellowstone geysers, by F. Francis.
- OUT WEST, vol. 18 (April, 1903), pp. 545-546, and vol. 19 (November, 1903), pp. 455-472. Yellowstone Park, by M. E. Andrews.
- vol. 22 (May, 1905), pp. 325-331. Something about the Yellowstone Park, by A. T. Richardson.
- OUTDOOR LIFE, vol. 27 (May, 1911), pp. 479-486. Camping in the Yellowstone, by J. A. McGuire.
- OUTDOOR WORLD AND RECREATION, vol. 49 (July, 1913), pp. 22-26. Vacation jaunts to Uncle Sam's playgrounds, by Arthur Chapman.
- OUTING, vol. 16 (July, 1890), pp. 256-263. Yellowstone Park, by A. B. Guptill.
- vol. 18 (June, 1891), pp. 191-195. First bicycle tour of the Yellowstone National Park, by W. O. Owen.
- vol. 30 (May, 1897), pp. 163-164. A woman's trout fishing in Yellowstone Park, by M. T. Townsend.
- vol. 32 (April, 1898), pp. 17-24. Camp and cycle in Yellowstone National Park, by W. W. Thayer.
- vol. 34 (May, 1899), pp. 161-167. Through the Yellowstone on foot, by C. H. Henderson.
- vol. 52 (July, 1908), pp. 508-511. Wyoming summer fishing and the Yellowstone Park, by R. E. Clark.
- vol. 61 (January, 1913), pp. 449-455. Four-footed citizens of the Yellowstone, by J. M. Johnson.

- OUTLOOK, vol. 74 (Aug. 29, 1903), pp. 1036-1040. Managing a national park, by H. H. Lewis.
- vol. 95 (May 28, 1910), pp. 157-169. Scenery as a national asset, by Allen Chamberlain.
- vol. 100 (Feb. 3, 1912), p. 246. A national park service.
- vol. 102 (Dec. 14, 1912), pp. 811-815. National parks, the need of the future, by James Bryce.
- OVERLAND MONTHLY, vol. 6 (May and June, 1871), pp. 431-437, 489-496. The Washburn Yellowstone expedition.
- 2d s., vol. 5 (January, 1885), pp. 1-13. The world's wonderlands in Wyoming and New Zealand, by C. F. G. Cumming.
- 2d s., vol. 29 (June, 1897), pp. 594-603. In nature's laboratory: Driving and fishing in Yellowstone Park, by F. B. King.
- PETERMANN'S GEOGRAPHISCHE MITTEILUNGEN, vol. 17 (1871), pp. 278-279. Eine Wunderwelt am Yellowstone.
- vol. 18 (1872), pp. 241-253, 321-326. Die neu entdeckten Geyser Gebiete am oberen Yellowstone und Madisou River.
- vol. 38 (1892), pp. 92-93. Ueber das Anseifen der Geyser im Yellowstone National Park, by Dr. Carl Diener.
- PLANT WORLD, vol. 1 (January, 1898), pp. 52-55. The standing fossil forests of the Yellowstone National Park, by F. H. Knowlton.
- POPULAR SCIENCE MONTHLY, vol. 25 (August, 1884), pp. 494-508. The world's geyser regions, by A. C. Peale.
- vol. 27 (July, 1885), pp. 289-295. A great winter sanitarium for the American Continent, by Edward Frankland.
- vol. 43 (July, 1893), pp. 301-307. Fossil forests of the Yellowstone, by S. E. Tillman.
- vol. 54 (February, 1899), pp. 475-481. Death Gulch [Yellowstone Park]: A natural bear trap, by T. A. Jaggar, jr.
- vol. 80 (June, 1912), pp. 531-547. The national parks from the scientific and educational side, by L. F. Schmeckebeier.
- RECREATION, vol. 4 (May, 1896), pp. 221-225. Game in the Yellowstone National Park, by O. D. Wheeler.
- vol. 11 (August, 1899), pp. 103-104. Glories of the Yellowstone, by I. W. Walker.
- vol. 12 (June, 1900), pp. 449-450. Predatory beasts in Yellowstone Park, by U. S. Brackett.
- vol. 15 (December, 1901), pp. 417-423. In a wild animal republic, by Dan Beard.
- vol. 15 (December, 1901), pp. 425-429). Protect the game in Yellowstone Park, by L. R. Freeman.
- vol. 15 (December, 1901), pp. 431-434. From New York to Heaven, by Myra Emmons.
- vol. 30 (August, 1909), pp. 72-73. Scenes in Yellowstone Park.
- vol. 32 (July, 1910), pp. 53-55. "Sage brush" in Yellowstone Park, by H. D. Foster.
- vol. 34 (December, 1911), il., pp. 262-263. A walking trip through Yellowstone Park, by C. P. Fordyce.
- vol. 36 (July, 1912), pp. 32-33. Wyoming's entrance to Yellowstone Park, by W. N. Montfort.
- REVIEW OF REVIEWS, vol. 40 (July, 1909), pp. 44-48. The Nation's playgrounds, by G. O. Smith.
- SAINT NICHOLAS, vol. 30 (September, 1903), pp. 998-999. Novel fishing feat, by Everett Foster.
- vol. 30 (September, 1903), pp. 998-999. Novel fishing feat by W. H. Weed.
- vol. 13 (April, 1892), pp. 230-236. Fossil forests of the Yellowstone, by W. H. Weed.
- SCIENCE, vol. 11 (June 1, 1888), pp. 255-256. [Map of] the Yellowstone National Park.

- SCIENCE, vol. 13 (May 17, 1889), pp. 382-384. Soaping geysers, by Arnold Hague.
 —— vol. 17 (Jan. 16, 1891), pp. 36-37. Mineral waters of the Yellowstone National Park, by W. H. Weed.
 —— vol. 22 (Nov. 3, 1893), pp. 244-246. Overland sounds in the vicinity of Yellowstone Lake, by Edwin Linton.
 —— n. s., vol. 6 (July 30, 1897), pp. 145-157. Vegetation of the hot springs of Yellowstone Park, by B. M. Davis.
 —— n. s., vol. 9 (Feb. 24, 1899), pp. 425-442. Early Tertiary volcanoes of the Absaroka Range, by Arnold Hague.
 —— n. s., vol. 19 (Apr. 15, 1904), Death Gulch, by F. W. Traphagen.
 —— n. s., vol. 33 (Apr. 14, 1911), pp. 563-568. Origin of the thermal waters in the Yellowstone National Park, by Arnold Hague.
 —— vol. 37 (Mar. 21, 1913), pp. 446-447. Yellowstone, by W. S. Franklin.
 —— vol. 37 (June 20, 1913), p. 941. Yellowstone Park and bears, by J. L. Smith.
 —— vol. 38 (July 25, 1913), pp. 127-129. Yellowstone Park bears a nuisance, by W. S. Franklin.
- SCIENTIFIC AMERICAN, vol. 82 (Jan. 27, 1900), p. 60. Rapid decline of geyser activity in Yellowstone Park, by E. H. Barbour.
- SCIENTIFIC AMERICAN SUPPLEMENT, vol. 55 (Jan. 3, 1903), pp. 22575-22576. The geysers of Yellowstone Park, by D. A. Willey.
- SCOTTISH GEOGRAPHICAL MAGAZINE, vol. 8 (May, 1892), pp. 233-248. The Yellowstone region and its geysers, by H. M. Cadell.
- SCRIBNER'S MAGAZINE, vol. 35 (May, 1904), pp. 513-527. The Yellowstone Park, by Arnold Hague.
- SCRIBNER'S MONTHLY, vol. 2 (May and June, 1871), pp. 1-17, 113-128. The wonders of the Yellowstone, by N. P. Langford.
 —— vol. 3 (November, 1871), pp. 1-17. Thirty-seven days of peril, by T. C. Everts.
 —— vol. 3 (February, 1872), pp. 388-396. More about the Yellowstone, by F. V. Hayden.
 —— vol. 6 (June, 1873), pp. 120-157. The ascent of Mount Hayden, by N. P. Langford.
- SIERRA CLUB BULLETIN, vol. 8 (January, 1912), pp. 236-239. Are national parks worth while? by J. Horace McFarland.
 —— vol. 9 (January, 1913), pp. 28-32. National parks, the need of the future, by James Bryce.
- SOUTHERN MAGAZINE, vol. 9 (August, 1871), pp. 219-223. The falls of the Yellowstone, by Howard O'Neill.
- SPECTATOR, vol. 81 (Dec. 24, 1898), pp. 944-945. The Yellowstone Park to-day.
- SUNSET, vol. 27 (August, 1911), pp. 131-140. Yellowstone Park before the season opens, by A. W. North.
- TIJDSDCHR. KON. NEDERL. AARDR. GENOOTSCHAP (1891), pp. 444-484. Geysers, by H. Zondervan.
- TOUR DU MONDE, vol. 28 (1874), pp. 289-352. Le parc national des Etats-Unis, by MM. Hayden, Doane et Langford.
- TRAVEL MAGAZINE, vol. 16 (March, 1911), pp. 233-236. The how and why of geysers, by C. H. Claudy.
 —— vol. 23 (May, 1914) pp. 19-21. Petrified forests of Yellowstone Park, by G. E. Mitchell.
- UEBER LAND UND MEER, vol. 101 (1909), pp. 311-313. Geyser und heisse Quellen, by Dr. M. Wilh. Meyer.
- VERHANDLUNGEN DER GESELLSCHAFT FÜR ERDKUNDE ZU BERLIN (1887), vol. 14, No. 3, pp. 154-171. Ein Ritt durch den Yellowstone Park, by E. Deckert.
- VOM' FELS ZUM MEER, vol. 15 (1896), pp. 374-379. Der Yellowstone Park in Nordamerika, by Max Graf von Zeppelin.
 —— vol. 23 (1904). Der Yellowstone Park, by O. Eckstein.
- WESTERN MONTHLY, vol. 4 (July, 1870), pp. 60-67. Valley of the Upper Yellowstone, by C. W. Cook.

- WORLD To-DAY, vol. 8 (June, 1905), pp. 631-639. A nation's playground, by H. F. Cope.
- vol. 19 (November, 1910), pp. 1263-1272. Touring Yellowstone Park on Government highways, by M. O. Eldridge.
- WORLD'S WORK, vol. 6 (June, 1903), pp. 3569-3576. On horseback through the Yellowstone, by H. D. Sedgwick, jr.
- vol. 24 (May, 1912), pp. 68-77. Unknown wonders of our national parks.
- ZEITUNG DES VEREINS DEUTSCHER EISENBAHNVERWALTUNG, vol. 48 (September, 1908), pp. 1151-1154, 1167-1169. Die Erschliessung der Yellowstone National Park in den Vereinigten Staaten von America durch Verkehrswege, by A. Küntzemuller.

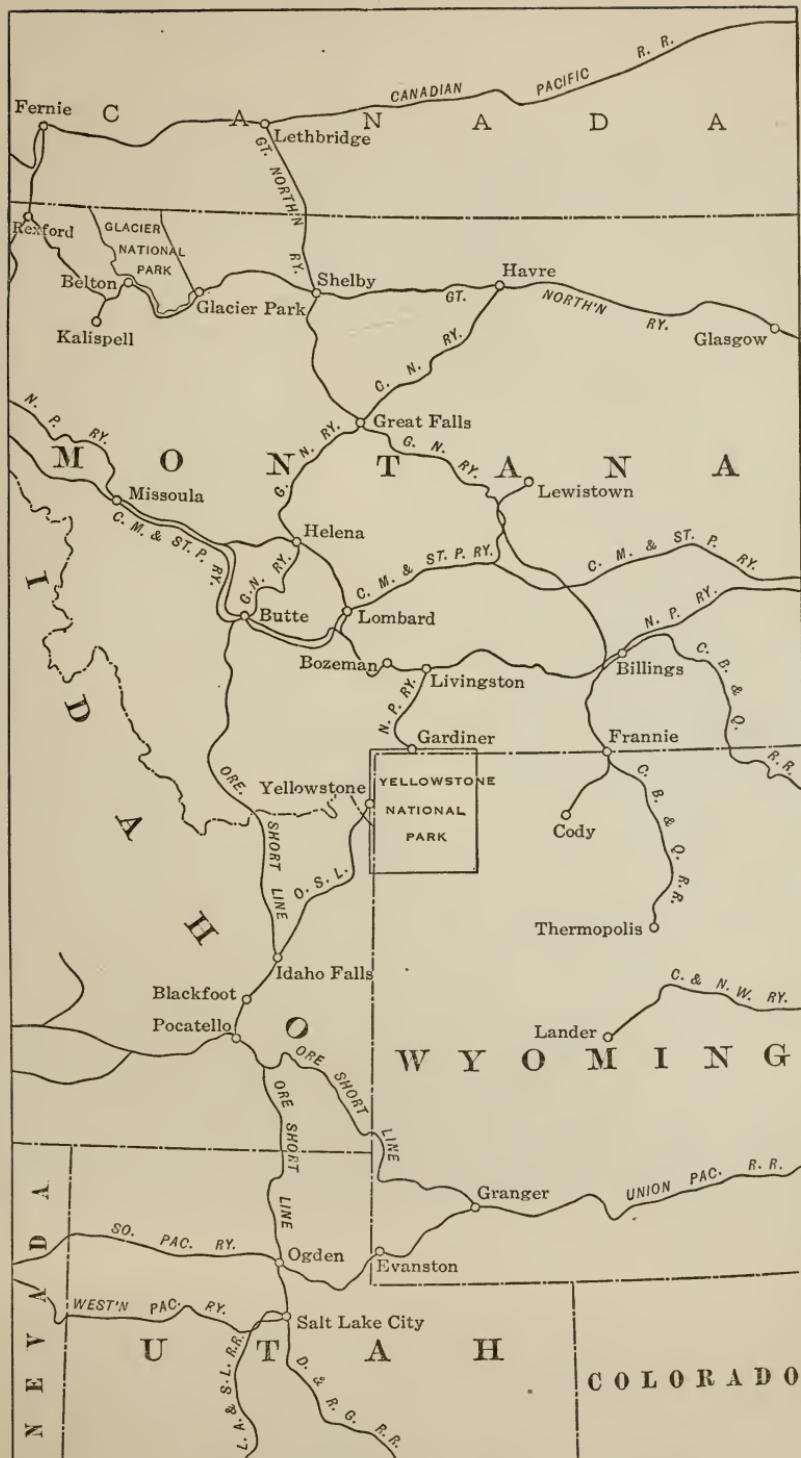
OTHER NATIONAL PARKS.

The circulars containing information about National Parks listed below may be obtained free of charge by writing to the Secretary of the Interior, Washington, D. C.

Yosemite National Park.
Mount Rainier National Park.
Crater Lake National Park.
Mesa Verde National Park.

Sequoia and General Grant National Parks.
The Hot Springs of Arkansas.
Glacier National Park.

JUNE 30, 1915.



Approximate Scale

100 90 80 70 60 50 40 30 20 10 0

200 Stat. Miles

MAP SHOWING RAILROAD ROUTES TO YELLOWSTONE AND GLACIER NATIONAL PARKS.

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